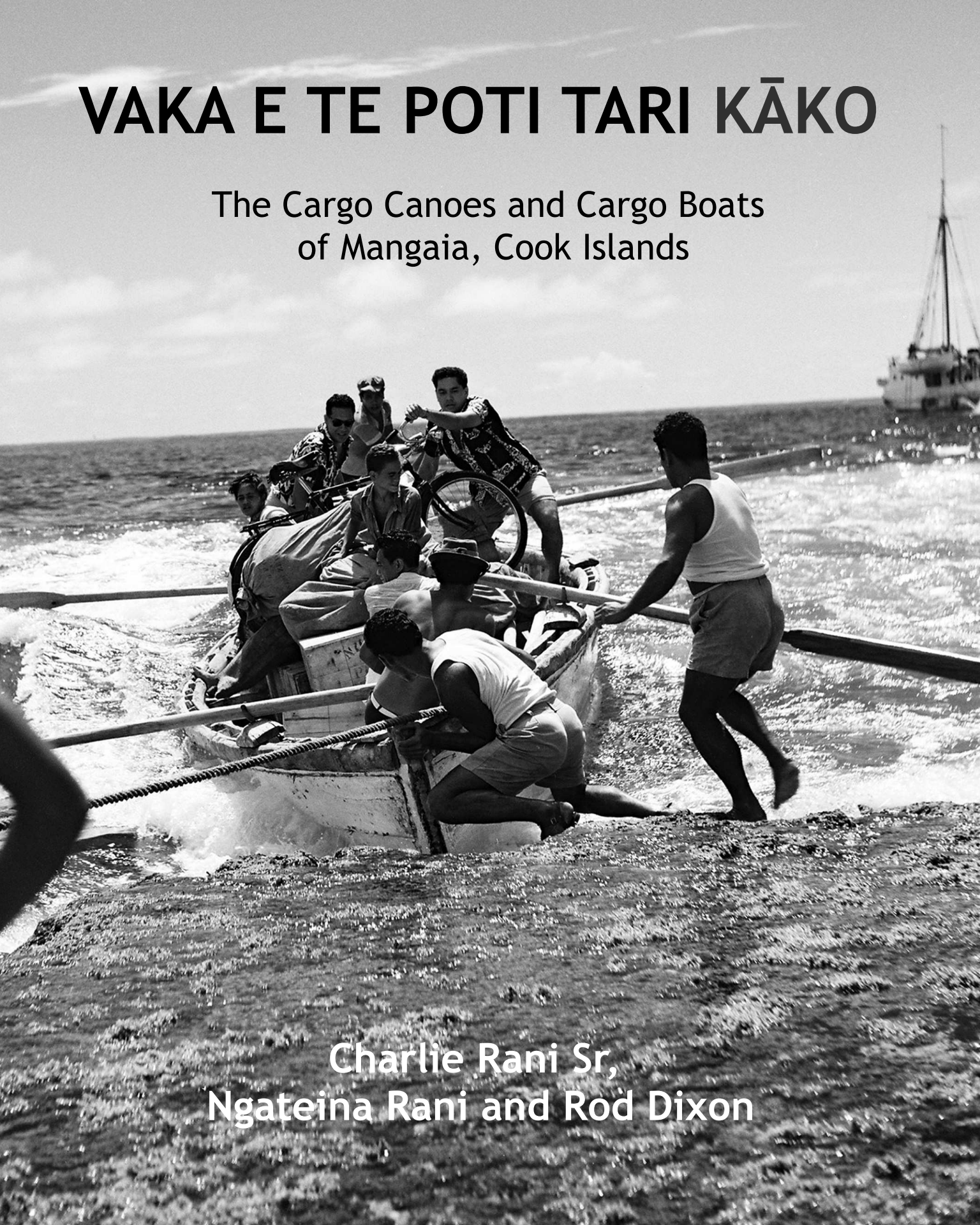
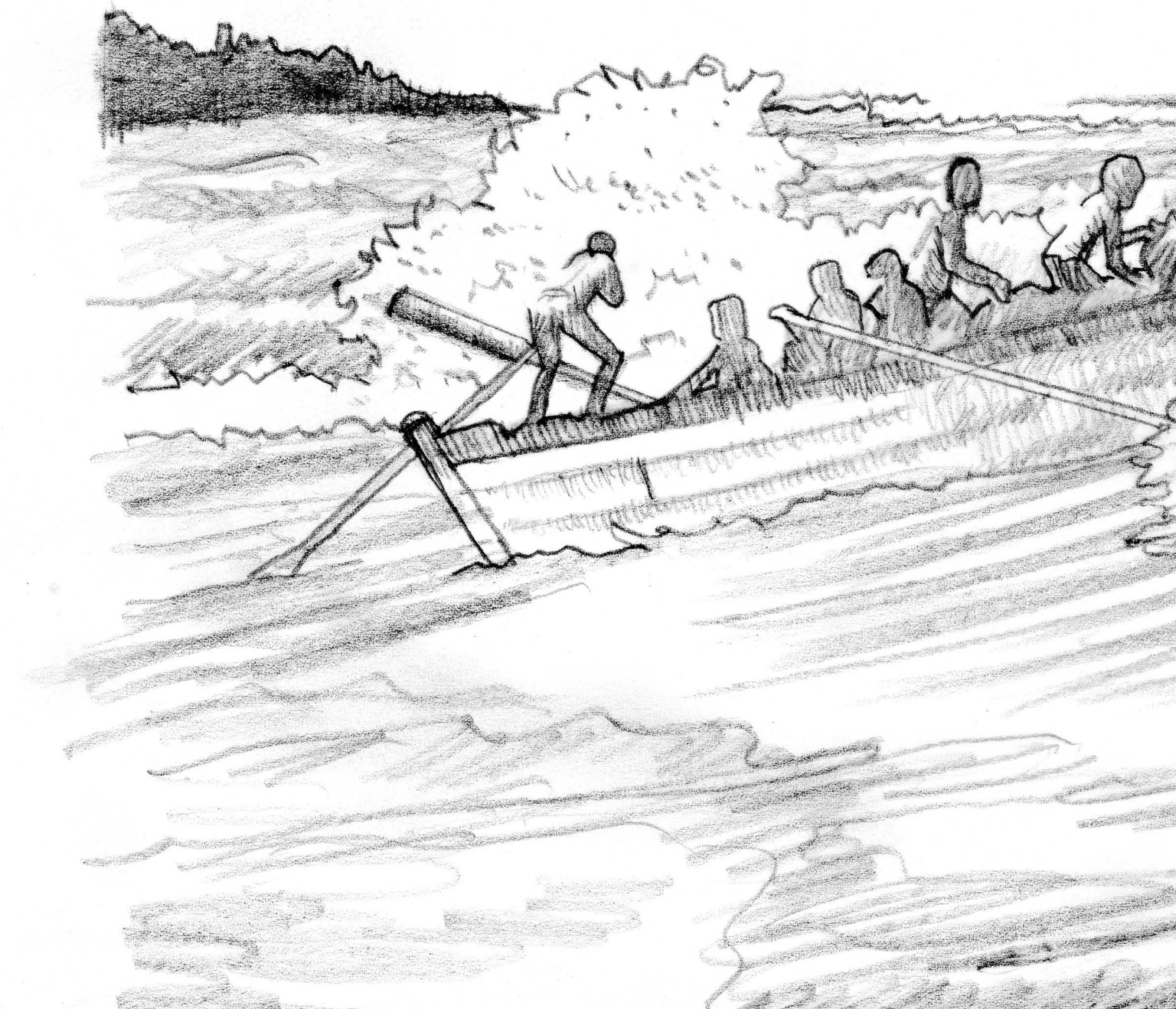
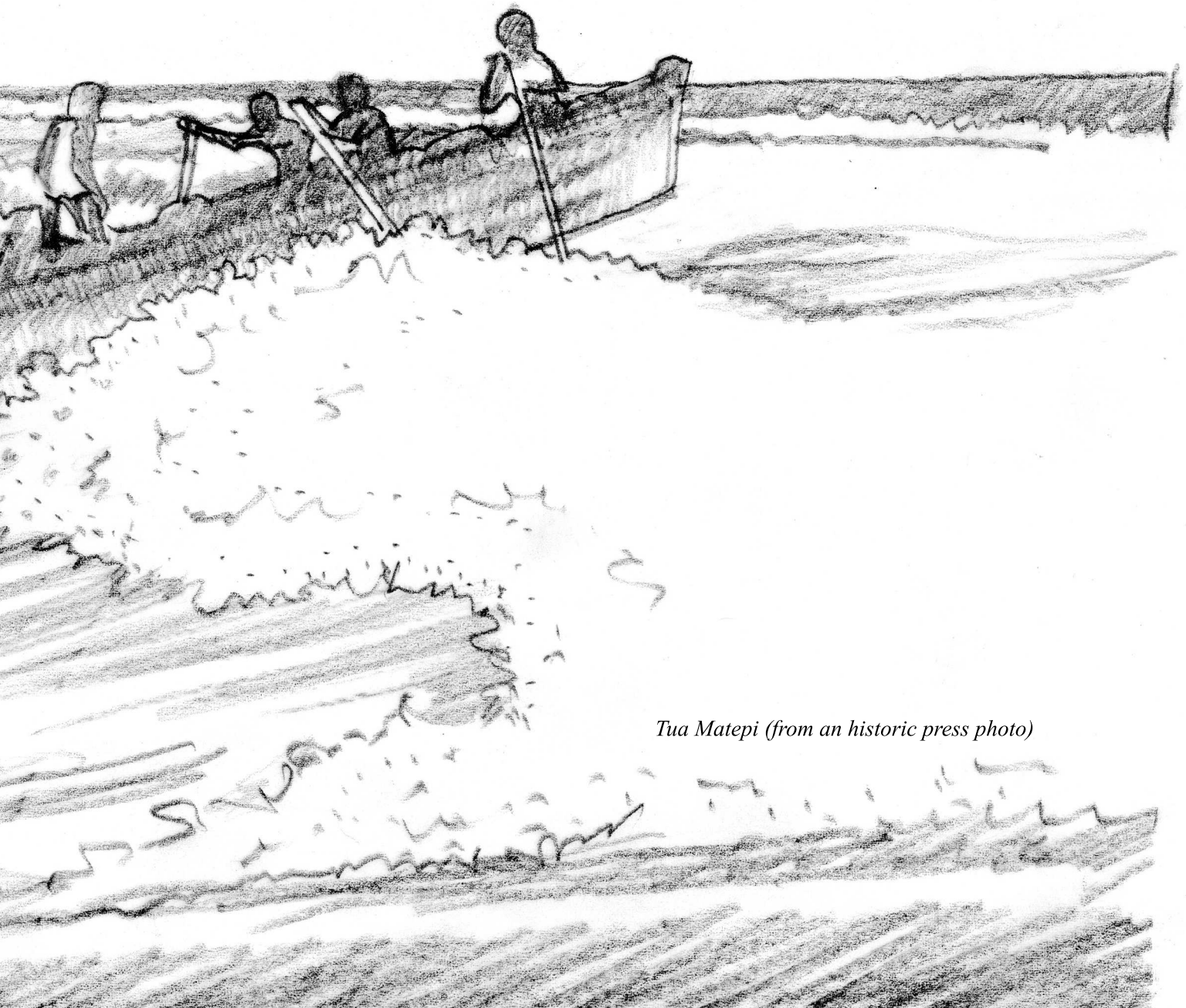
VAKA E TE POTI TARI KĀKO

The Cargo Canoes and Cargo Boats of Mangaia, Cook Islands



Charlie Rani Sr,
Ngateina Rani and Rod Dixon





Tua Matepi (from an historic press photo)

Mangaia Historical and Cultural Society

Mangaia

2021

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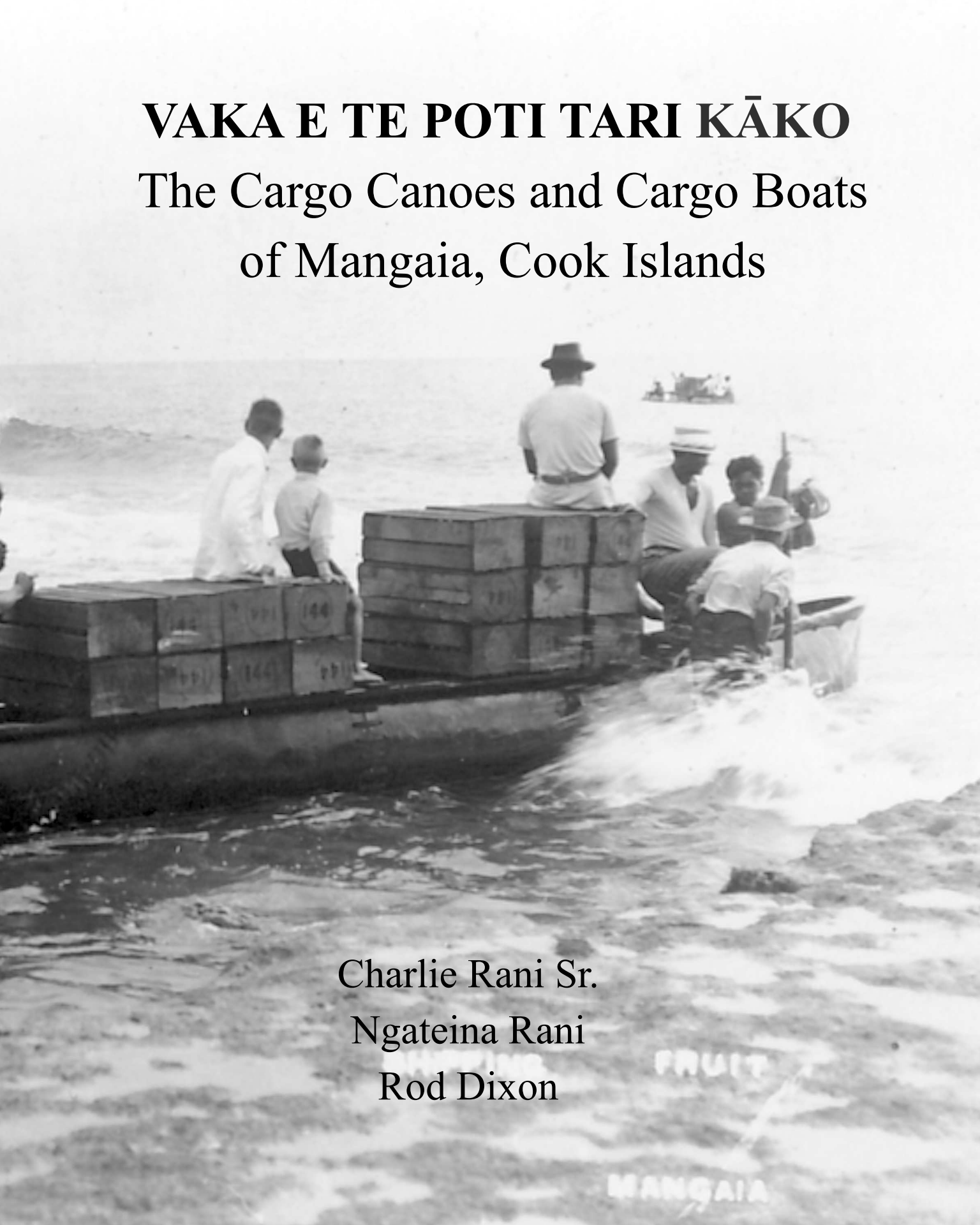


Charlie Rani Sr.
Ngateina Rani
Rod Dixon

The lead author, Charlie Rani Senior, worked on his family boat as a young man. His father Vaevae Rani was considered a kaingaru - an expert on waves and the handling of boats in rough seas (photo: 1983 - Christian Clerk).

Published by the Mangaia Historical and Cultural Society
Mangaia, 2021

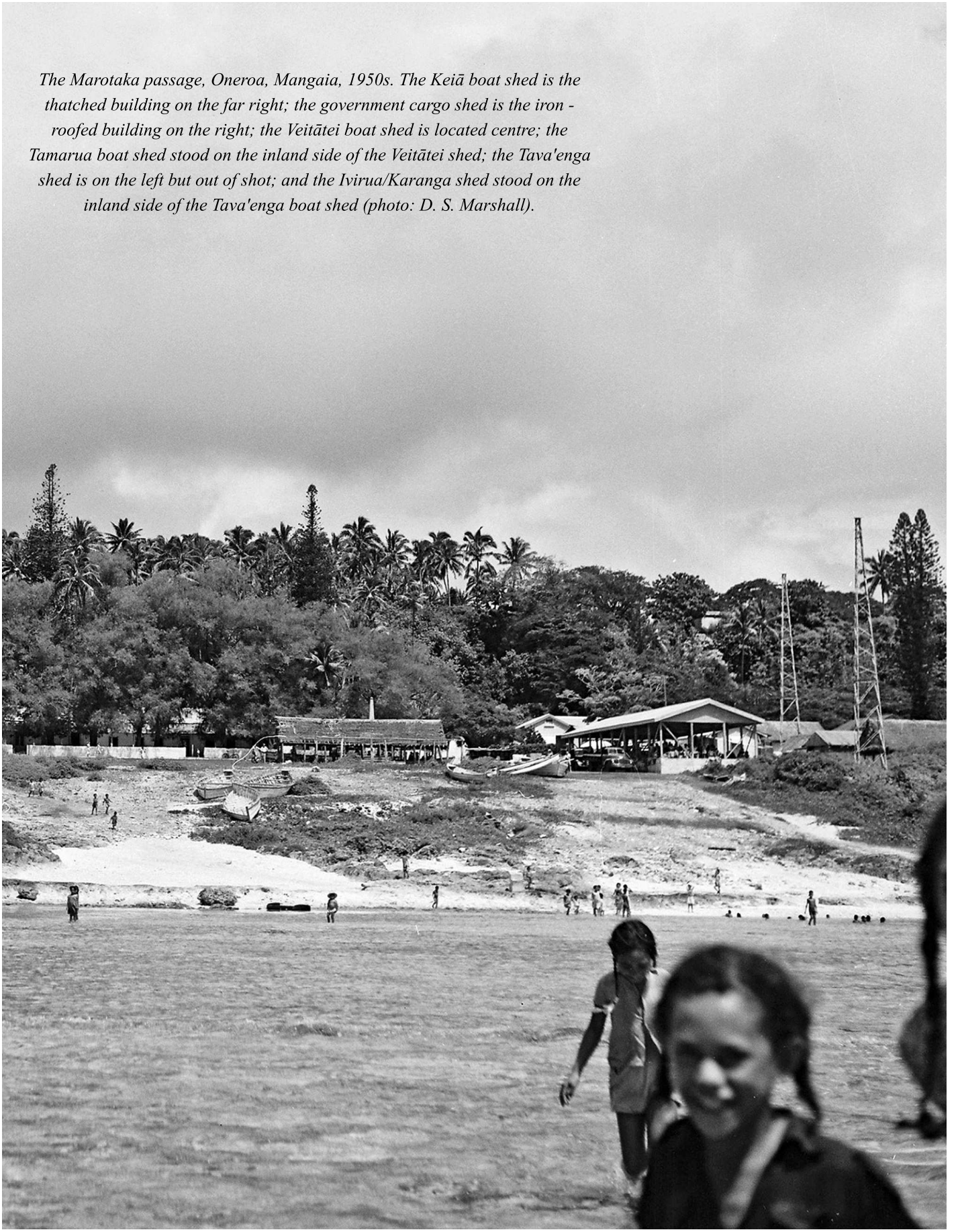
with special acknowledgement to former boat crew members, Pastor Ngametua Papatua rangatira, Teinakore Tangatakino and Tere Atariki who generously shared their knowledge of working the poti papa; Tua Matepi rangatira who provided the sketches; and the following members of the Society who read and corrected the manuscript - Allan Tuara, Taoi Nooroa rangatira, Pastor Ngametua Papatua rangatira, and Maire Kareroa rangatira.

NOTE

Mangaian cargo canoes and boats were crewed exclusively by men but many women handled boats with considerable ability. Maki, a Mangaian missionary to New Guinea, was particularly well-known for her outstanding boating skills.

"Piri's wife [Maki] - could fearlessly steer a boat through the boiling surf with perfect safety."
Rev. W. W. Gill, *Darkness to Light,* 1894; 362

"She could take services, preach a sermon, teach in school, superintend work about the station, take charge of a boat, and handle it well in the worst of weather." - Rev. James Chalmers, *The Chronicle*, 1889; 301



The Marotaka passage, Oneroa, Mangaia, 1950s. The Keiā boat shed is the thatched building on the far right; the government cargo shed is the iron - roofed building on the right; the Veitātei boat shed is located centre; the Tamarua boat shed stood on the inland side of the Veitātei shed; the Tava'enga shed is on the left but out of shot; and the Ivirua/Karanga shed stood on the inland side of the Tava'enga boat shed (photo: D. S. Marshall).

Contents

Introduction

Vaka Tari Kāko ; Canoes for ferrying cargo - *Charlie Rani Snr.*

Mangaian Boat Companies, canoe unions and crews

Mangaia's reef passages

Shooting the reef - visitors' stories

Appendix 1 - Mangaian main exports 1914 - 1964
Appendix 2 - Making poi
Appendix 3 - Mangaian boating vocabulary
References

Landing at Mangaia - a view from the Quarter Deck

Captain Roger Turpie, Master of the missionary vessel "John Williams"

"The great drawback to the Island of Mangaia, like many others …. is the want of a harbour or anchorage and the never-ceasing surf beating on its coral shores. I have never yet in my experience been able to land goods in the ship's boats: all the goods have to be transferred to canoes just outside the raging surf.

The canoes then watch their opportunity and at a given signal from the leading man rush in on an advancing wave, and reaching the outer edge of the reef are immediately seized by those on shore and dragged out of the reach of the next wave.....

It is impossible to keep a ship stationary in the open sea unless you can anchor her. The nearest approach to it is to heave her to. This is done by reversing the action of the sails on one mast; in other words, the sails on one mast are so arranged that they propel the ship forward, while the sails on the other mast are arranged to counter-act them. The result is that the ship drives to leeward, or in the direction the wind is blowing, more or less slowly according to the build of the ship, the force of the wind and sea, and the trim of the sails.

If there is much goods to land it becomes very heavy work for all hands, as everyone is at work through the day, and the night watches have to go on as usual....

Sometimes, too, the weather is too tempestuous or the sea too rough to hold any communication with the shore, and the ship has to "lay off and on" (sail backwards and forwards) till the weather moderates, or the sea goes down. It may be for a day only, or it may be a week.

Another source of anxiety to those on board is a calm when near the shore; in most parts of the world if a ship is becalmed and in danger of drifting on shore, an anchor could be let go which would reach the bottom and hold the ship before she touched the rocks. Not so here at Mangaia, for no chains which ships carry would be long enough to reach the bottom at ship's length from the reef.

Your only resource, if becalmed close in, is to lower away all the boats you can muster and send them ahead to tow the ship away from the reef. But towing a ship with boats in the open sea is heart-breaking work for the crews, and they soon tire and are of little use.

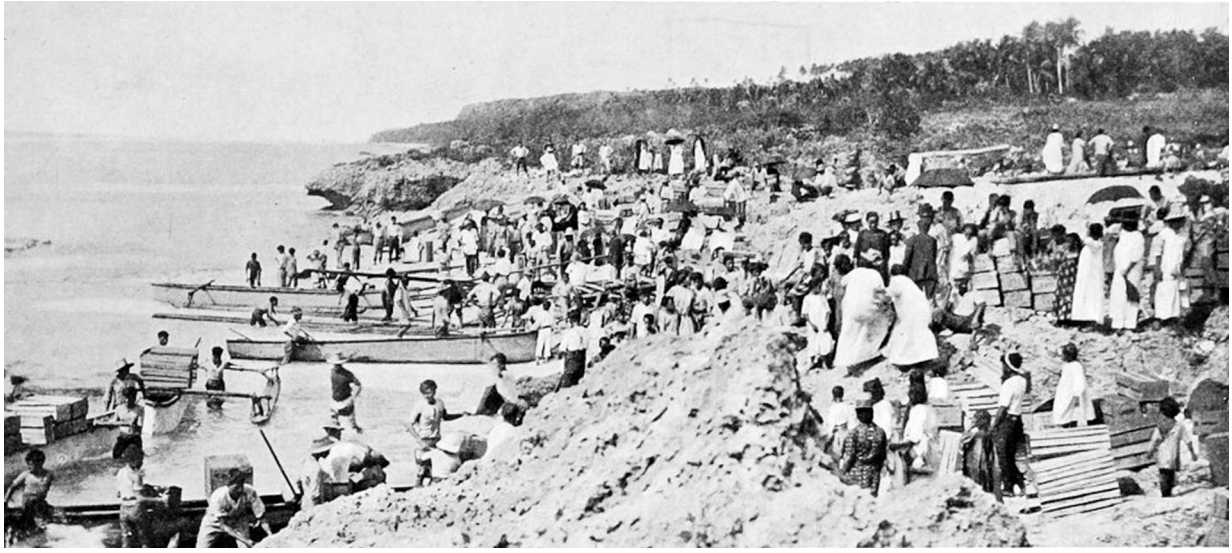
(Source; Chronicle of the London Missionary Society, May, 1902)

The Morikau steps, 114 feet high, (now the location of "The Cutting") was one of the main routes for cargo from the inland plantations to the seashore at Oneroa and back. "Up this antique stairway go men and beasts alike in order to reach the top or the interior of the island beyond." (Town and Country Journal, 29 July 1908; photo: Henry Winkelman, 1910, Auckland Institute and Museum, Neg.2840)

Te ara o Tairei steps (125 feet high), in Tava'enga village - another route for cargo from the makatea and inland gardens to the shore (photo: George Crummer, c. 1900, Auckland Institute and Museum, Neg.22056).

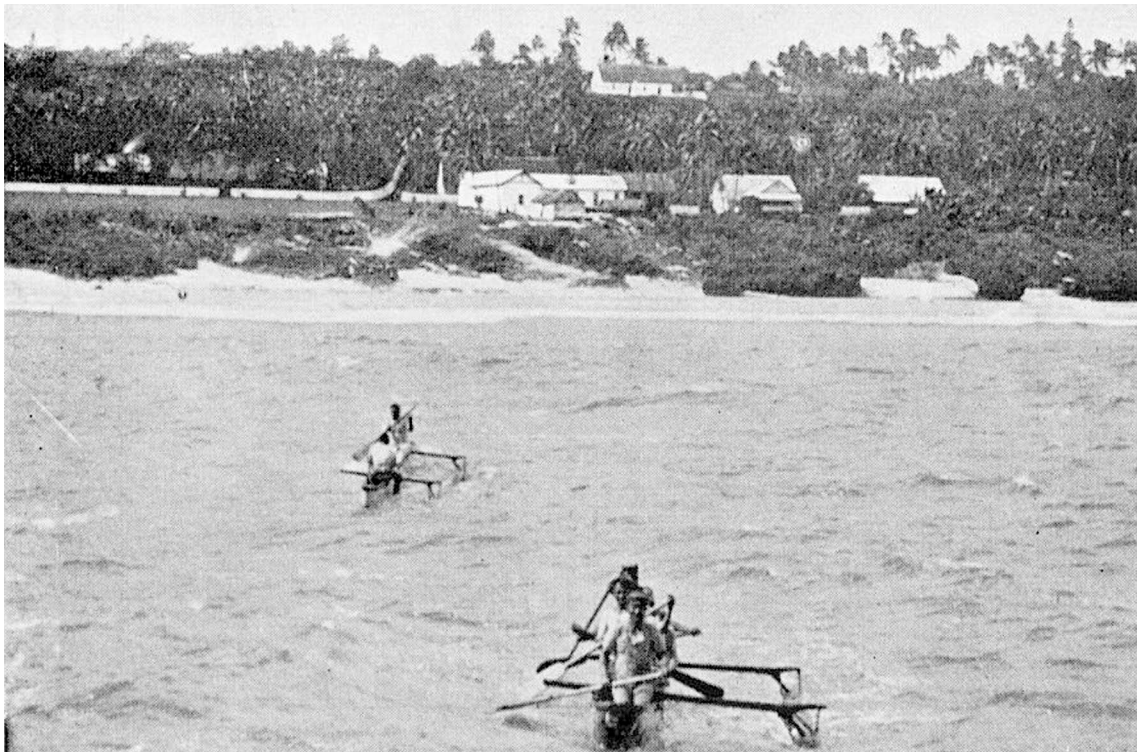
In the early 1950s, the anthropologist Don Marshall noted -
"Everything ferried off the boat had to be physically loaded for a long portage on their backs, over the coral rocks of the reef, and up the steep dirt track to the road, [then] piled up in the village pile and tallied off by the checkers. Many tons can be loaded (or unloaded in a reverse process) in an hour. The natives and local government people boast how much faster the Mangaians load than the Rarotongans.... the secret lies in the fact that the Rarotongan people are paid by the day, the Mangaians by weight, thus the faster each village works the more cash earned to be split between them." (Polynesian Journal, 1951-3; 256-7)

Around 1906 - The rough track down to the Marotaka passage. On the upper right is the gable of the Government cargo shed built from timbers salvaged from the wreck of the 'Saragossa'. The white gable behind is the newly constructed Government residency. Sacks of copra and coffee and crates of tomatoes and oranges are stacked for lighterage over the reef. Everything has been carried on human or horse-back from the top of the makatea, down the makatea steps, then over the coral rocks to the shore.



(Above) "A Difficult Coast to Work; Shipping Fruit at Mangaia" (photo - George Crummer, Auckland Weekly News, 19 March, 1914). The loading point for cargo at Oneroa - beneath the patapata, on the inner edge of the lagoon.

(Above) c. 1900 - A heavily loaded canoe with sacks of copra, crates of oranges and tomatoes. Barrels of lime juice in foreground. (Below) 'Coming ashore Mangaia '(photo - New Zealand Graphic, 25 July, 1903). A. B. Donald's store is on the right of the government buildings and Ata kavana's house is further to the right.



(Above) 1910 - The left hand side of the Marotaka passage can be seen as a line of almost submerged dark rocks stretching out to the reef's edge with the Union Steamship Company vessel S.S.Talune standing off. (Opposite, above and below) A procession of cargo canoes taking cargo to and from the Talune. Space on the Talune was restricted and cargo was often left unshipped.
(Photos - Henry Winkelmann, Auckland War Memorial Museum, photo # 2835, 2836 and 2837)

1904

“Shoreward on the crest of a foaming roller …”

The Irish travel writer, Beatrice Grimshaw, arrived off Mangaian on the "Countess of Ranfurly", coming over the reef on 22 September 1904.

“You cannot land upon Mangaia in the ordinary way - the reef that surrounds it is unbroken, and girdles the whole island in a fortress of its own. The only way to land is to get into one of the numberless native canoes that crowd about the ship, and let the copper-coloured owner take you over the reef in his own way, which is the determined and decisive way of a steeple-chaser at a fence. It is most excellent fun and a new thing in sensations.

As the little dug-out - made of nothing more elaborate than a hollowed mango log, with an outrigger at one side - rushes shoreward on the crest of a foaming roller, you watch with rather anxious interest the movements of the dusky boatman, who poises his paddle in the air, waits, looks, and strikes the water, always at exactly the right moment - usually when you are just beginning to think of kicking off your shoes.

There is the reef right in front, a pearly shadow in the blue, with up-springing spears of ivory, bared like the teeth of a tiger, when the wave rolls back. Are we going to jump that? We are indeed. The boatman lifts his paddle - we sweep upwards on the sloping blue satin neck of a curling wave. No no, that

will not do - not this time. He backs water - we hang on the crest of the wave - but we are not going to be drowned, or snapped up by the sharks that haunt the reefs, because the boatman is a born islander, and what he does not know about canoeing over a reef neither you nor I need attempt to teach him.

Another wave, a monster this time, swinging us up into the air as if we were a couple of grasshoppers out paddling in a walnut shell. That will do; here she goes! The wave roars with us; the wicked white fangs gleam on either hand; our rough thick keel scrapes agonizingly on the coral and there is a smother of foam and tumbling blue and bursting green all about the cranky little craft.

Bump! we have struck - we strike again, but it does not seem to matter in the least; over we go, and we are in the smooth, safe, shallow green water inside, and across the reef. And here are a dozen men of Mangaia, splashing about in the lagoon, ready to pick up the visitor in their powerful arms as soon as the canoe grounds in the shallow water, and carry her ashore. That is how one lands on Mangaia."

(Beatrice Grimshaw, In The Strange South Seas, Hutchinson & Co., London, 1908).

Introduction

Introduction

The island of Mangaia, the southernmost island of the Cook Islands, is surrounded by a narrow fringing reef constructed by coral polyps. At certain points the continuity of the reef is broken by channels created by fresh water run-off from the inland hills.

The width and depth of these natural channels do not permit ships to enter while, outside the reef, the deep ocean floor prevents anchorage. Consequently, ships must stand off and on while cargo is ferried across the reef.

"The outer-reef face is steep, the reef flat is just awash at half tide, and there is only about a foot of water over it in very calm weather. Calm weather is uncommon, and the long Pacific swell breaks heavily across this outer-reef flat."As a result, writes Ron Powell, "It is always a difficult problem to manoeuvre a boat so that it can run in over the reef other than at high tide. As the tide drops, the edge of the coral reef bares and the water from the previous sea pours back over the edge in a cascading white breaker.... In moderate weather the operation calls for good judgment and the ability to keep a boat on top of the breaking wave so as to get the greatest depth of water under the bottom. In practice, it often happens that a boat crew may surf in on the forward face of the sea, but the boat will then strike the dry face of the reef with disastrous results. Once a boat has capsized it will often roll completely over, and the crew, passengers, and cargo may be flung into the surf" (Powell 1968; 48).

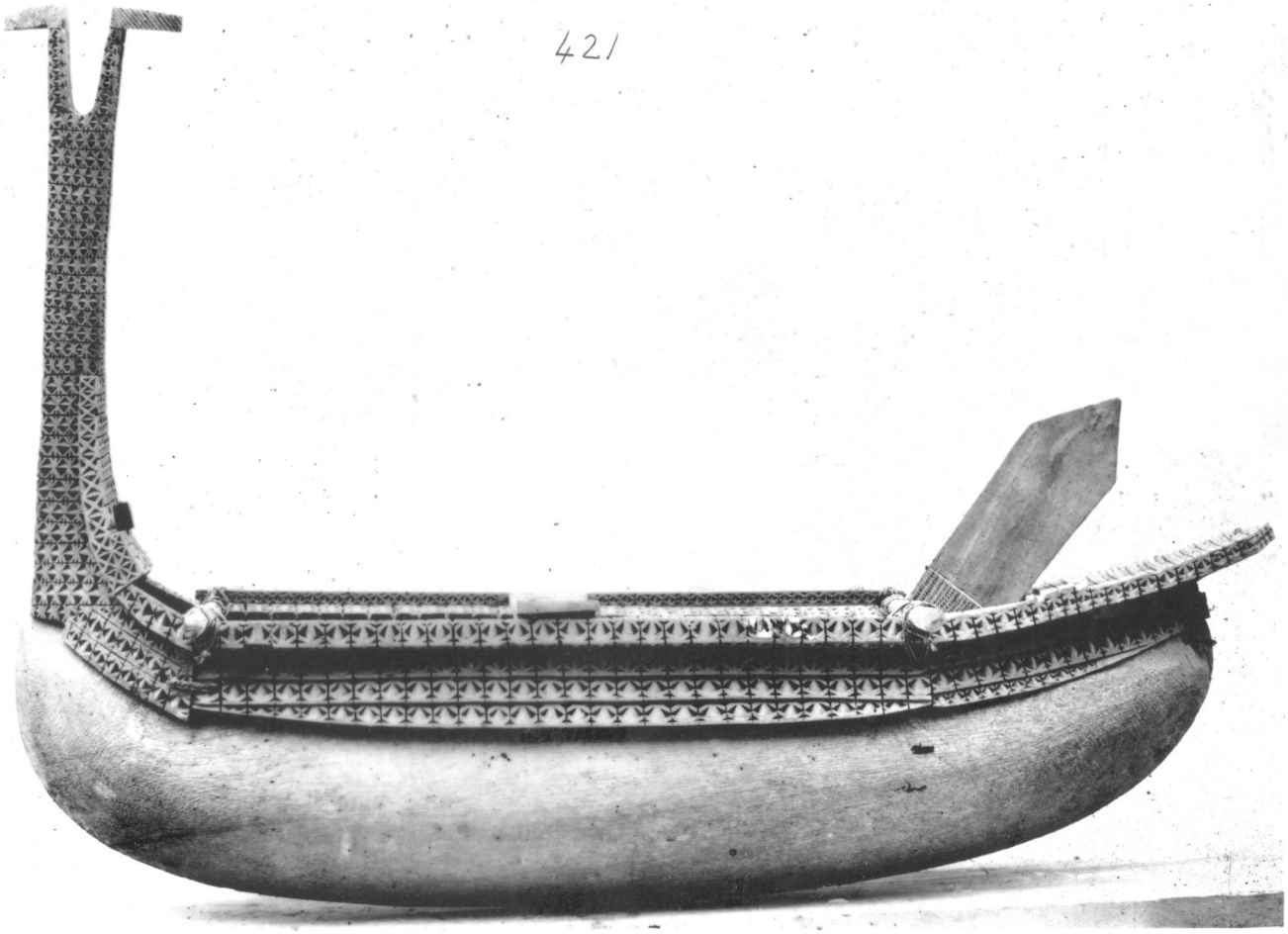
Visiting Mangaia in 1930, the ethnographer Te Rangi Hiroa (1944; 177) observed that, for lightering cargo over the reef, "Mangaians … preferred to use large outrigger canoes which have a shallower draft and can be hauled over the reef edge, and paddled from and to the shore. The Mangaian method reduces the distance that the goods have to be carried." A disadvantage was that the shallow draft canoes could not carry large loads, and, as trade increased, so did the amount of physical labour involved in conveying large volumes of cargo over the reef.

Traditional canoe design

Contemporary images and descriptions of the Mangaian canoe from the time of European contact indicate that design features of both single and double Mangaian canoes included -

· **An elevated sternpost or repe** – Captain James Cook observed a 10 foot long coastal canoe at Mangaia and estimated its stern post at 5 feet high (1784; 173). Hornell figures the high stern post on a model Mangaian canoe in the Australian Museum, Sydney (1936 Vol 1; 160) (*see image next page*) and on the vaka A'ua'u in the Dominion Museum [now Te Papa Tongarewa], New Zealand (1936; 159).

. **A low bow -** according to Hiroa's informants (Aiteina and Akeakore) "original canoes had high bow pieces called rapa… Una [from Tahiti], grandfather of Rori, introduced the low bow and thus enabled canoes to come in against the wind....The innovation added to Una's fame" (Hiroa, MS SC, Box 4.17). Hornell writes, "The fore end of the old Mangaian canoe was always low, with little or



Model of a Mangaian canoe. Hornell (1936, Vol 1; 160) notes " though badly proportioned, it shows all the characteristic features of the Mangaian canoe; dug-out hull, richly carved washstrakes and gunwale rail, projecting headboard, and tall sternpiece with bifurcated summit; form of paddle is typical." Note also the rounded bow and stern. (Photo; Australian Museum, Neg. No. V.421)

no sheer: to compensate for this, the islanders fitted a stout board or slab (papahua) over it, "projecting out, to prevent the sea from getting in on plunging..." as Cook remarked when he saw this feature in a small canoe that visited his ship at Mangaia." (Hornell, 1936, Vol. 1; 159)

· **A bow cover or tuaru** - a piece of wood was fitted over the fore part of the hull to form a short fore deck. An alternative name is the poki (the bow cover being the poki mua and the stern cover the poki miri).

· **An outrigger** - consisting of a float or second hull and two booms (kiato). The float (ama) was almost always on the port (left) side of the canoe, the reason given that right-handed men could make long sweeps with the paddle on the starboard side and steer from that side without interference from the aft boom. A left-handed man attached his outrigger on the starboard side. The ama was connected to the hull by booms (kiato) of ironwood – (see Hiroa, 1944; 186). In the case of voyaging canoes, the kiato joined a smaller dug-out canoe (the vaka teina, or port hull) to the larger vaka tuakana or starboard hull. This smaller hull was designed to be lighter to allow the main hull to lift it in high seas and strong winds, making the whole craft easier to steer. According to Te Rangi Hiroa, it was the narrowness of much Polynesian timber that necessitated the adoption of outrigger floats or double hulls to stabilize the narrow dug-out craft.

These four design features are illustrated in images of a Mangaian coastal canoe sketched by John Webber, William Wade Ellis and Henry Roberts, artists on H. M. S. *Resolution* during Captain Cook's Third Pacific Voyage.

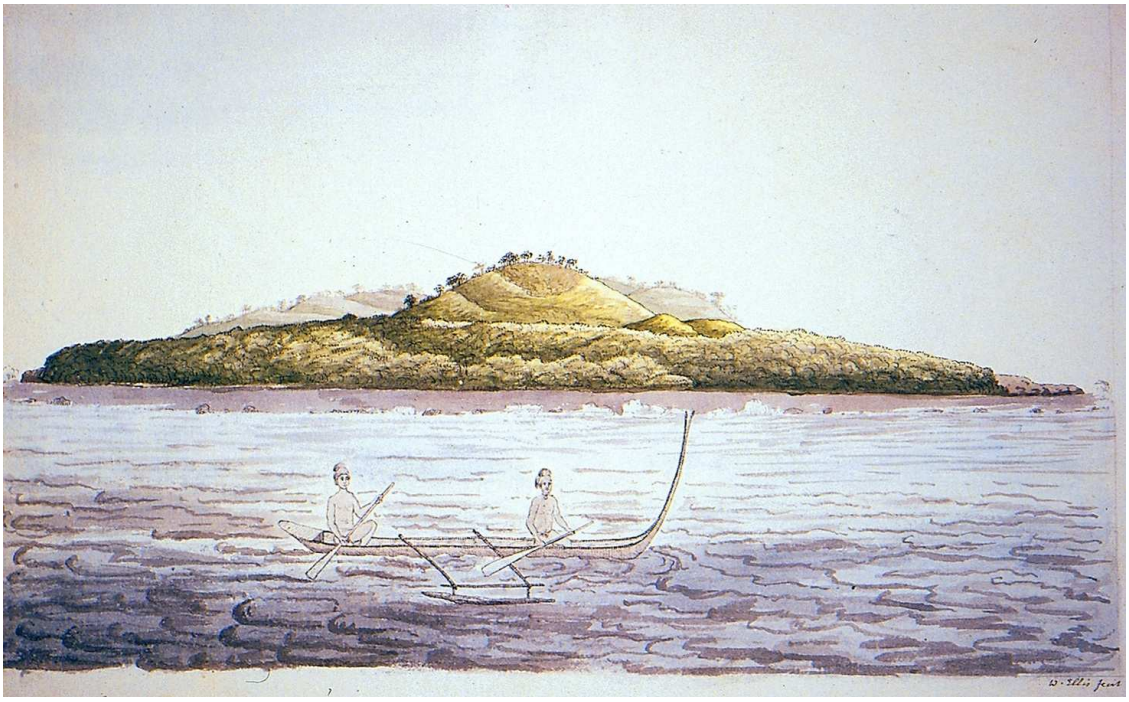
Co-voyager Second Lieutenant James King described the Mangaia coastal canoe of 1777 as – "exceeding narrow, a flat board projected about a foot from one end from which was a perpendicular piece of about six feet long the uppermost end of which was shaped like the figure V. It had an outrigger and was neatly made." (Beaglehole, 1967, Vol.I : 78, 3n).

Meanwhile, Surgeon William Anderson, also on board *Resolution*, recorded – "the Canoe…was not above ten feet long and very narrow but both strong and neatly made. The forepart had a board fasten'd over it to prevent the sea getting in on plunging and the stern post was a thin board about five feet high fork'd at the upper part. The lower part of the boat was of white wood but the upper part and the paddles were of black heavy wood not above three feet long, broad at one end and blunted. They paddled either end of the boat forward indifferently and only turn'd about their faces to paddle the contrary way" (Beaglehole, 1967, Vol.III; 827-8).

No contemporary description of the much larger Mangaian double-hulled voyaging canoes exists (but see Mautairi, 2012).

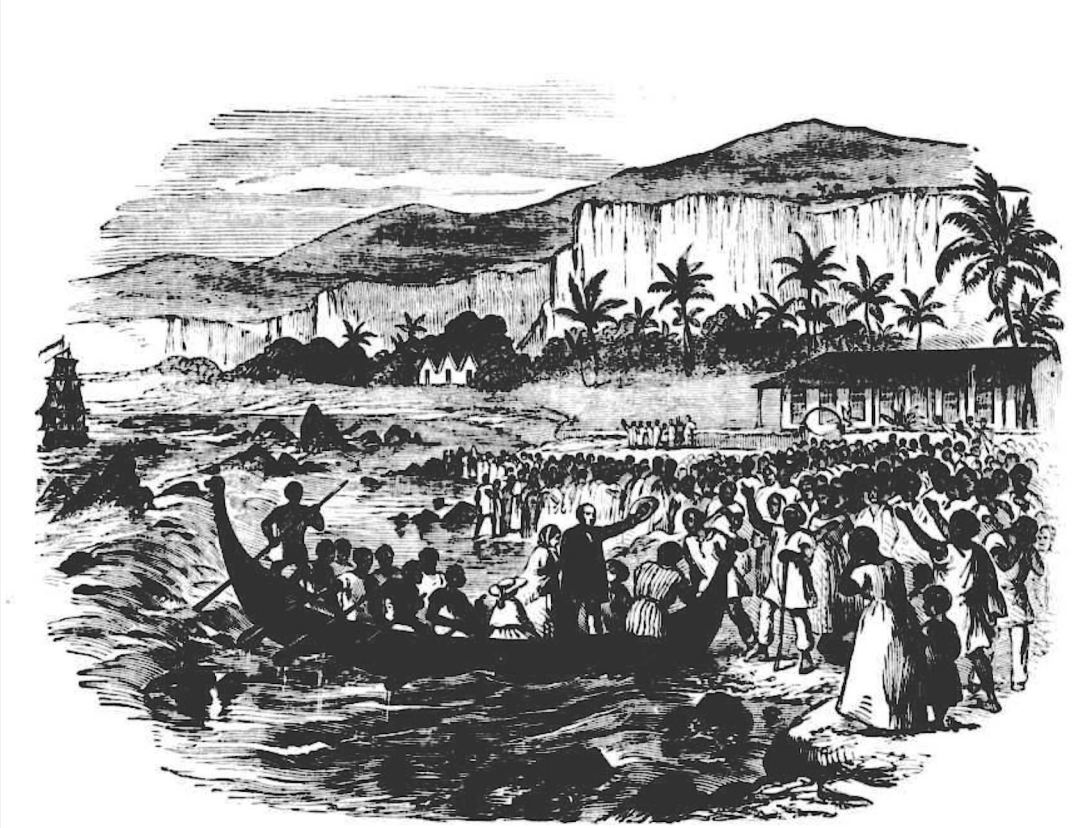
Coastal canoes

Hiroa writes that, "With the advent of Europeans, particularly missionaries, inter-island communication in native craft ceased, hence the building of double voyaging canoes ended" (1944; 177). This left the small coastal dug-out used for offshore fishing, and a larger version adapted to lightering for the post contact trade with



Two men in a canoe off Mangaia. March 1777, (above) by William Wade Ellis; (below) - by John Webber; artists on board H.M.S. "Resolution" during Cook's third voyage. "They paddled either end of the boat forward... and only turn'd about their faces to paddle the contrary way"

(Above) Two men in a canoe off Mangaia, March 1777, Henry Roberts Log, State Library of New South Wales. A canoe house can be seen on the shoreline. (Below) This half-sized hull of a Mangaian canoe is, according to George Cook, identical to the "one that landed me on the island of Mangaia sixty odd years ago."(New Zealand Herald, 9 December 1933) (photo; Te Papa Tongarewa, National Museum of New Zealand, FE010422)



This lithograph from the Illustrated Sydney News, 25 November, 1871 shows the Mangaian Mission House, the three roofed church then in existence, the makatea cliff face, and the approximate location of the Oneroa reef passage. The depiction of the canoe seems less exact, though the high sternpost or repe is still evident.

1872 - "A number of men launched their canoes and came off to the ship. When the vessel was near enough to the shore, our boat was lowered and we pulled in to the edge of the reef. A large canoe then came off to the boat to take us in over the breakers. On getting out of the boat we took our seats in the canoe. The men then paddled us quite near to the broken water and waited for a large wave to take us in upon. In a very few minutes the expected wave arrived and as it rose, it bore us up above the level of the reef and with a few good strokes of the paddle, we were carried forth with it, and safely grounded on the strand amid the seething foam. The natives then jumped out and gently bore the canoe though the shallows to the landing place, but as soon as we had touched the shore, the people crowded around us and seizing the canoe, they lifted us bodily up upon their shoulders and with unutterable groanings and shouting, marched away with us through the multitude of spectators and ascending the rocks, we were borne along the path, up to the gate of the Mission house, where they gave three deafening cheers, and letting us down shook hands and set us at liberty to go to our friends." James C. Vivian, *Voyage on the John Williams from Tahiti to Sydney 01 April 1871 - 06 February 1872*, Records of the London Missionary Society, South Seas Journals/File 159 (Box 11)

A Mangaian fishing canoe, in the mid 1950s, in a design common from, at least, the start of the 20th century to the present day..

commercial and whaling vessels from the mid 1800s.

Hiroa writing in 1934 noted –“The canoe hulls now in use in Rarotonga and Mangaia have departed from the native type in that certain features of European boats have been copied, just as they have been in Tahiti." He refers in particular to "the bluff bow and square-cut stern." (Hiroa, 1934; 144).

Hornell writes that: "The form of the dugout underbody of the canoes of Mangaia and Rarotonga was formerly, and remains today, practically identical with the shape of the hull seen in Tahitian dugout canoes now existing, the cutwater sharp and nearly vertical, rounding at the lower angle into the keel line with the lower side of the after end curving fairly quickly from the horizontal bottom to terminate in a bluntly pointed stern" (Hornell, 1936, Vol.1; 159).

Writing in 1936, Hornell describes the Mangaian canoe as "formed of a dugout underbody finished off with a strong gunwale rail extending the whole length of the hull ...The fore end of the underbody is sharp and nearly vertical, the stern truncate in transom fashion, evidently in imitation of a square ended European boat. The canoe is open except when a flat fore decking board is used to cover the space forward of the fore boom" (Hornell, 1936, Vol.1; 162).

It is not clear when or why the high stern post or repe disappeared but Michael Tavioni (pers.com. 2020) has suggested that it may have interfered with the loading and unloading of cargo as commercial trade became more fully developed in the late 19th century. The whaler George Cook writes that it was still in place in the mid 1870s.[1]

Transition from dug-out canoes to flat-bottomed boats [poti papa]

On Mangaia, the absence of good stands of hardwoods meant canoe makers had to seek their timbers from other islands, in particular Ma'uke (for Tamanu), 'Aitutaki (for Puka) and 'Ātiu for the introduced mango wood. This trade in timber extended from the nineteenth century through to the early1940s when the excavation of wider reef channels, the rising cost and problems in supply of native timbers, and demands for greater efficiency in lighterage, led to the replacement of the dug-out canoe with a higher capacity flat bottomed boat (the poti papa) of European design and material.

Ma'arona [kāvana of Veitātei and in the 1950s, chief boatman for the island] told the anthropologist Donald S. Marshall that they - “changed from canoes to cargo boats owing to the fact that boats could handle much more cargo and also the canoes cost more money because the big timbers had to be imported from the other islands (Raro, Aitutaki, Ma'uke, etc)…. "

"The cost of a canoe was £30 - 40 only for wood and freight, plus all the work afterward. [Flat] Boats cost £60 - 80 including all wood, paint, putty, etc."

By the late 1930s, the problem of obtaining native timber for canoes had become so acute that the Mangaian canoe companies were obliged to buy "a number of flat-bottomed boats usually from the people of Ma'uke. They are usually of native timber and poorly constructed, but owing to the

[1] According to George Cook, the vaka A'ua'u at the National Museum of New Zealand, with its high stern post, was identical to the “one that landed me on the island of Mangaia sixty odd years ago.” ('Lonehander,' *New Zealand Herald*, 9 December 1933)

Cargo canoes in 1930 - (above) a young man sits on the rear kiato to add stability to the craft

great difficulty of finding suitable logs for making canoes, the Mangaians were forced to accept them. These boats have been found quite easy to handle on the local reef, and the Mangaians now prefer them to the canoes and state that they are safer than the canoes for crossing the reef and, apart from this, will hold 5 times as many cases of oranges." (Resident Agent, Hugh Hickling, 4 April, 1940).

During 1940, Hugh Hickling continued, "we have built 3 boats of this type, using good materials and as a result of the good workmanship, there is now a keen demand for more." Initially, the boats were built by the Island Council and sold to the canoe companies. The material used was kauri timber 6" x 3/4" purchased through the Cook Islands Administration.

"Teao was the first carpenter to make a boat in Oneroa – he was from Ma'uke. Canoes [could carry] 8 – 18 cases: boats could carry up to 80-100 cases (though the canoe is easier to paddle).... Kei'ā had the last canoe (called Vakapa'u or Vakapoi – the last canoe was used in the time of [Resident Agent Lionel] Trenn [1]. (The change from canoes to [flat] boats was achieved in 3 – 4 years)" (Marshall, 1958; 1046).

Edwin Gold has dated the widespread adoption of the poti papa to 1941- 42 (*Pacific Islands Monthly*, 18 September, 1944). This is confirmed by a memo from Resident Agent Lionel Trenn dated 13 October, 1943, which states - "Several districts have built one or two large flat-bottomed boats, and one district Kei'ā, has built three. These boats were made entirely of local trees, firs being cut down and sawn into planks." (The scarcity of shipping during the war, meant almost total reliance on local timbers).

Don Marshall suggests that flat bottomed boats continued to grow in size and capacity over the following decade. "The great flat-bottomed lighters [which] have been built since my last visit [1951]– are about as large now as [they] can possibly get - amazing how a steersman can handle them on a wave – can see four of these very large ones – the smaller ones are also around" (Marshall, 1953-4: 237).

The larger cargo-boats, with their significantly increased capacity, not only reduced the number of trips required to load and unload cargo but reduced the standing time offshore for inter-island and international shipping.

As well as Teao from Ma'uke, Enoka from Manihiki (a Seventh Day Adventist pastor on Mangaia at the time) is credited as an early builder of the flat-bottomed boat. Later, the Rev Bill Marsters, CICC orometua at Oneroa from 1956 – 63, introduced the plank built boat from his home island of Palmerston. This used Puka planks on a Tamanu keel and frame. Marsters showed people on Mangaia how to build a similar boat with ribs of 'Au wood and planks of imported timbers and is said to have built one for use by the Ekalesia. The design of the only keeled boat ever built on Mangaia, operated by the puna Kei'ā, is also attributed to Marsters.

In 1962, then Government Fisheries Officer at

[1] Lionel Trenn was Resident Agent or senior government representative on Mangaia from 1942-47, the period of transition from the dug-out canoe to the flat bottomed boat.

Above, below and right - Mangaian poti papa or flat-bottomed lighters, 1950s (photo this page - D.S. Marshall)

Rarotonga, Ron Powell, visited Marsters on Mangaia in search of a locally produced cargo boat that “was flat-bottomed amidships with moderately full ends, and one that would be better to handle under oars than a continuous flat-bottom craft.”

The Marsters boat met the criteria and Powell commenced the construction of five similar boats for 'Ātiu, armed with “imported sawn building-grade Douglas Fir timber for the planking; galvanized Ewbank boat spikes; some galvanized round rods in 4" and 1" diameters; galvanized square Whitworth nuts to suit; some borrowed dies to cut the threads; galvanized boat crutches; a few G-clamps; enough paint, caulking cotton, and seam filler; and a couple of ring bolts for bow and stern. The total cost was £500” (Powell 1968; 47).

The size of the poti papa, their maintenance and handling required a crew larger than the immediate family (father and sons) and so responsibility was passed to the kopu tangata, the sub-village or the puna/district itself.

The anthropologist Don Marshall observed in 1958 that “The [dug-out] canoes were owned and run by the kopu tangata or by a man and his sons. There used to be over 40 [dug out] canoes, but now some 8-9 [flat-bottomed] boats are in use, plus some “standby” boats. The first boats are still in [the] hands of family, but gradually they [have] moved to having the puna take over the boats. The boats were too heavy and too complex for a family to maintain!” (Marshall, 1958;1046).

The sequence of puna replacing the dug-out canoe was –

1. Veitātei (Ma’arona kāvana) - the puna's first flat-bottom boat was built by 'Ave
2. Kei'ā - the puna's first flat-bottom boat was built by John Herman
3. Tava’enga, etc.

In his own puna, Ma’arona kāvana brought together all the boat companies into one large puna company or kamupani.

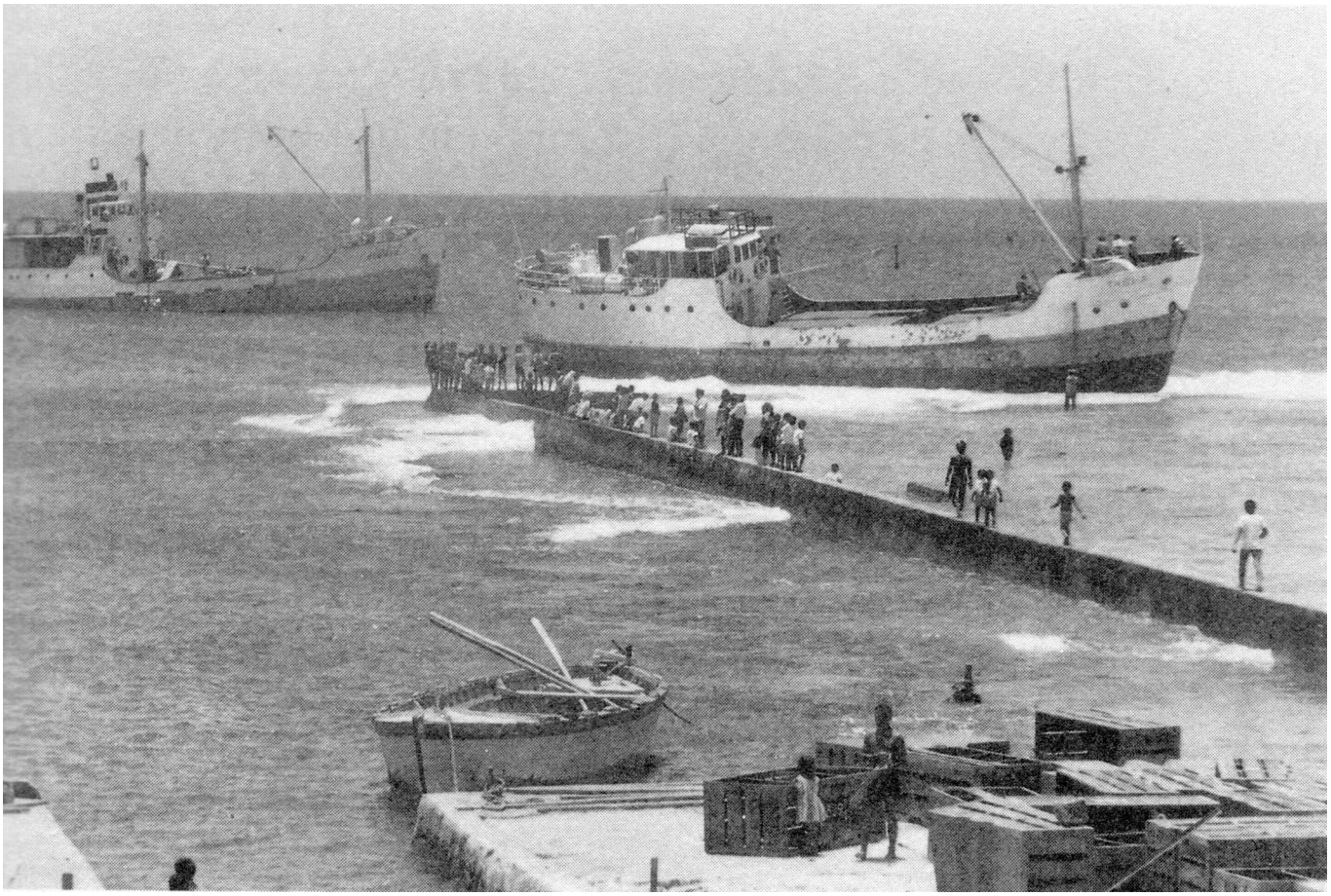
The transition from dug-out canoes to larger cargo boats was facilitated by periodic work on widening and deepening the islands major reef passages by the New Zealand administration. This was designed to speed up loading and unloading cargo, and thus improve the economic viability of the shipping service. This work increased at pace with the arrival of Major Winton Ryan as Resident Agent of Mangaia in 1948.

By the late 1950s it was reported that Mangaian boat crews, using the flat bottomed lighters, were able to load 150,000 cases of fruit and vegetables, and unload 121 tons of cargo during a single ship visit of 7.5 hours (Marshall, 1958; 741).

Later work focussed on the development of the Avarua channel as the island's main landing. This included extensive excavation and deepening of a 120 metre long channel and the construction of tidal deflector walls parallel to the passage. From the early 1970s motorized barges operated by puna Kei'ā (Captain Matamaki Paku) and puna Tava'enga (Captain Tarake Tetonga and later Tira'a Samuel) began to replace the kamupani cargo boats. The islands barge services were later taken over by the government (Department of Trade, Labour and Transport) and operated by Captain Willie Tuara.

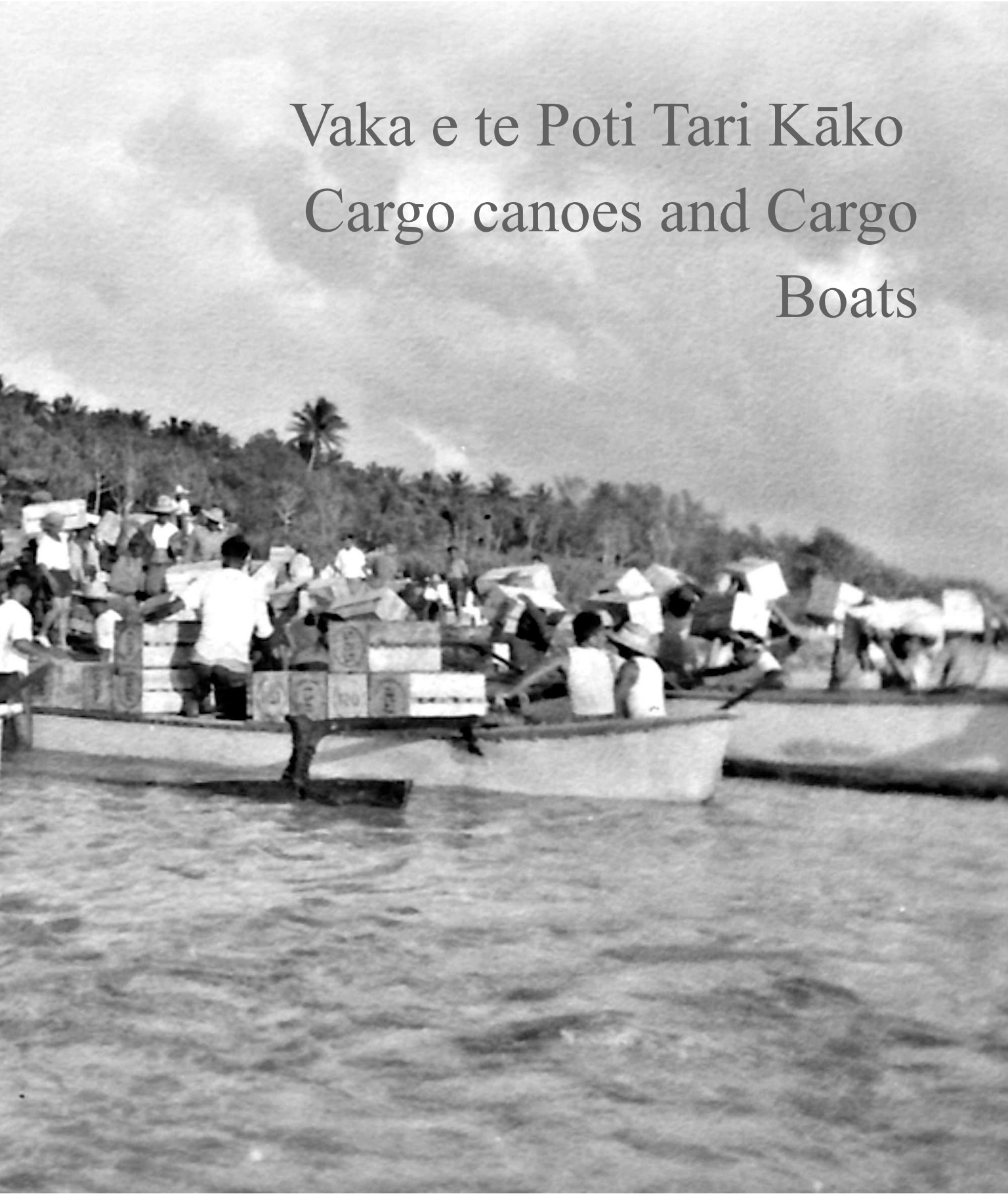
(Above and below) In 1960s the Avarua harbour became the island's main point of entry. The new harbour was equipped with tidal deflector walls, a cargo shed, a crane (operator Makiroa Taokia) and other mechanical lifting equipment. Cargo boats would soon be replaced by motorised barges but remained in use until the late 1970s. Tangi Rere's Bedford truck can be seen bottom left.

1976 - Avarua harbour with steel barge at front right, Bedford trucks and crane, replacing manual labour (photos; Christian Clerk)



The Silk and Boyd vessel "Tagua'" (known locally as "The Pineapple Taxi") wrecked on the reef at Mangaia, 14 December 1970. In the foreground, the only keeled boat ever built on Mangaia, owned by the puna Kei'ā . The cargons on the wharf were used for pineapple exports.

Vaka e te Poti Tari Kāko
Cargo canoes and Cargo Boats



Cargo canoes, loading oranges, Mangaia, c. 1910 (Above - Harrison Willard Smith, Peabody Museum, Harvard, image H24960) (Below - Harrison Willard Smith, Peabody Museum, Harvard, image H24962)

In both photos, a crew member can be seen tying their canoe to the ship's ropes or net, preparatory to the loading or unloading of cargo (above - Harrison Willard Smith, Peabody Museum, Harvard, image H24959; below - image H24961).

(Above) Mangaia, Canoe alongside 'Mapourika' 29 April, 1903 (photo - Henry Winkelman, Auckland Institute and Museum, Neg. 15292 (Below) 1932 - 'Oranges being loaded on Union Steam Ship Company's transpacific steamer Waikawa' (photo - New Zealand Herald, 28 July 1932).

Mangaia 1903 - Canoes gather around the ship's gangway, preparatory to taking passengers ashore (photo - Miriam Duncan Album, Alexander Turnbull Library, C16786).

(Above) 1920s - Sacks of copra being taken off to a waiting ship (photo - K. S. Graham).
(Below) Mangaia, 1903 - sennit stitching, joining timbers to form the canoe hull, can be seen (photo - Miriam Duncan Album, Alexander Turnbull Library, C16784).

(Above and below) Late 1920s - Cargo being ferried out to the "Waipahi" steaming up and down outside he reef. Because of a low tide, the cargo is being loaded at the reef's edge.

Vaka Tari Kāko

Charlie Rani Sr.

Te Rakau e Ropa ia ana te Vaka
O te ingoa o te rakau e Puka Avarua, tei te ara'api teia puka nei. (O te Puka Turina, tei te Makatea/ Raei te reira). O te Puka Avarua te rakau e ropa ia ana te vaka.

E toru potonga o te rakau, i reira ka pa'upa'u ia. E nati[nati] ia ana i te ka'a. Are e kitea ia te ka'a i te nga'i e pa'upa'u ia ai te rakau. O a roto i te vaka, ka kitea te ka'a e te pa'u'anga. O te kiato, e Toa rai te rakau. O te ama, e 'Au rai. (E turina tetai rakau tano no te ama)

O te ingoa o te tua katau o te vaka oia oki tua-i-katea. Te tua kaui, oia oki tua-i-ama. O te roa i te kiato i te tua-i-katea, mei te ono (6) 'ano, ia o e toru (3) tangata no te amo i te vaka. Mei te varu (8) i te ta'i-nga'uru (10) 'ano te atea i va'o i te ama mei te vaka mai. O te ropa'anga rai o te kiato vaka tautai, ka vaito ia te roa o te kiato e ka inangaro ia ei kiato tano tona tito, no te ko'anga i roto i te ama. Ia tano te manga o te tito, no te tika ia runga i te vaka e te ama.

Footnotes
[1] Pisonia, *Pisonia grandis.*
[2] The Mountain Lantern-Tree, *Hernandia moerenhoutiana.*
[3] Makatea – raised coral reef encircling the island; Raei – a karrenfield comprising approx. one third of Mangaia's land mass.
[4] Pacific Ironwood, *Casuarina equisetifolia.*
[5] Tree Hibiscus, *Hibiscus tiliaceus*.

Canoes for ferrying cargo

Charlie Rani Sr.

The timber from which the canoes are made.
Cargo canoes were made of a tree called Puka Avarua[1]. This tree is found along the coastal roads. (Puka Turina [2] are found on the Makatea/ Raei). [3]

Generally, three pieces of wood were cut for the hull and these were then lashed together with ka'a [sinnet]. The ka'a could not be seen on the external joint of the wood, only on the inside of the canoe. The outrigger boom (kiato) was made of ironwood. [4] The outrigger float (ama) was made of 'Au (tree hibiscus) wood.[5] Alternatively, Puka Turina might be used for the outrigger float.

The right hand side of the canoe is called tua-i-katea (the open side). The left hand side is called tua-i-ama (outrigger-float-side). The outrigger boom overhangs the open side of the canoe (tua-i-katea) by about 6 'ano or hand spans, making it possible for 3 men to carry the canoe. The outrigger float is positioned about 8 to 10 'ano from the canoe itself. Making the kiato for the cargo canoe is similar to making the outrigger booms of fishing canoes. The length of the kiato is measured and a correctly shaped branch known as the tito is cut and inserted into the outrigger float. The fork of the tito must be angled so that the kiato remains level from the top of the canoe to the top of the outrigger float.

Ropa'anga

Me kitea mai te rakau tano no te vaka (Puka Avarua), ka na mua i te pari i te au aka i te toki, i reira ka pari atu ai i te tumu o te rakau. O te tumu oki o te rakau, e nga'i puapinga ngao te reira, no te mea o a mua ia i te vaka. Me tarai ia a mua, are te rakau e nga'a. O te tumu o te rakau, e nga'i taviriviri te reira, no reira are e nga'a te rakau.

Me paku te rakau i raro, ka pari ia a miri, i reira ka akatano ia ai te riu (a runga i te vaka e a raro i te vaka). Me kitea mai te riu, ua akamata i reira te akatika (tarai) ia runga i te riu i te toki tarai. Me oti te riu, ua a'o, ua akamata i reira te tarai ia va'o. Akamata mai na mua (i te tumu) [e] aere mai i miri. I tei reira taime rai e akano'o ai te tu o te vaka.

Ia oti a va'o, ua akamata i reira te pao ia roto. Akamata i te toki, me are e taeria akaou ia e te toki, ua akamata te pao i te paopao e oti uatu. Ka pou te toru (3) marama i te ropa'anga i te vaka.

Te pao ra tetai pae tangata, te 'iri ka'a ra tetai pae. O te tapa'e i mua, e Tai'inu te rakau. O te 'oe e rakau papa'a e o te ama e Puka te rakau.

Footnotes

[1] *toki tarai* is the shaping axe as opposed to the *toki pao* - the digging-out axe.
[2] the front bow cover.
[3] *Tournefortia argentea.*
[4] Pisonia, *Pisonia grandis.*

Construction

When a suitable tree of Puka Avarua was found, it was felled by cutting the roots with axes. The trunk was cut up after the tree had been felled. The trunk is the most important part of the tree because it forms the hull of the canoe. Generally a tree with a gnarled trunk was selected to insure against cracking when the hull was being carved.

The stern of the canoe was shaped first and a decision made as to which side of the trunk would form the riu and the hull of the canoe. The workers then began carving and levelling the top of the riu with a shaping axe called toki tarai.[1] When they had completed the riu, the canoe was turned over to mark the outline of the hull with an ash-covered fishing line called the a'o. They then began shaping the external walls of the canoe beginning at the bow and working towards the stern. The standing position of the canoe was also determined at this time. When shaping the external walls of the hull was complete, the work turned to 'digging out' the inside, first with the axe called toki eru and, when that axe could no longer reach the narrowest part of the hull, they used a smaller axe called paopao or toki pao to finish the job. Generally it took about three months to complete the canoe. While some workers were busy carving the inside of the canoe, others worked on plaiting coconut fibre into sinnet for lashing together the various parts of the canoe. The tapa'e [2] in front was made of Tai'inu wood [3]. The oar was made of [coconut timber or] European wood and the outrigger was made of Puka.[4]

"By the landing, a group of men were sawing long planks and back in the village, a group of men were rushing to complete a large flat bottomed boat (6 feet wide). They are co-operative groups who build and operate these boats on a sharing basis." (Marshall, 1951-3; 216; photo - D. S. Marshall)

Ta'unga

O Paku Orometua, Tuakanakore tetai o te au ta'unga ngangao o te ropa i te vaka. Na ratou e kakaro me te tano nei te ropa'anga o te vaka.

Ta ratou vaito vaka, e vaito maro. O te vaka ngangao, e rima maro te roa e tetai au vaka e rua-nga'uru-ma-ono maro uri i te kapi pepa.

E peu oki na te iti tangata me pari tetai vaka, ka ta'u mai te ngutuare i te manga no te angai i te aronga 'anga'anga. Ka ta'u mai i te puaka, mangaika, mamio, te poke e tetai atu au kai tuketuke. E au ra rai tetai i te tuatau e ropa ra te vaka (pera te poti papa), ka tuoro te Aronga Mana o te puna ka "tuki te poi". E mamio tuna tini ia teia, i reira ka tuki ia i runga i te pa'ata tei karanga ia e e papāʻia. E tuki ia ana i te reru. Ka kairo ia rai i te akari.

E au ta'unga rai to teia 'anga'anga.

E manga tumu rai oki teia no tetai au 'anga'anga ngangao i roto i te puna. E pau mai ana to te puna katoa i te 'anga'anga i te vaka.

I te tuku'anga mua o te vaka i roto i te tai, ua manako ia ana e ua rave ia ana te papetito'anga (blessing). Are ra i papu te reira. O teia ra tei kitea mai, ua rave ia te reira i te poti papa e te au poti i muri mai.

The Canoe-making experts or Ta'unga

The Reverends Paku and Tuakanakore were among the best of the canoe making ta'unga. It was they who ensured that the canoe was correctly made. For measurement of the canoes they used the maro [two arm-lengths, equal to about 6 feet]. The big canoes were about 5 maro in length. However there were some that were about 26 maro.

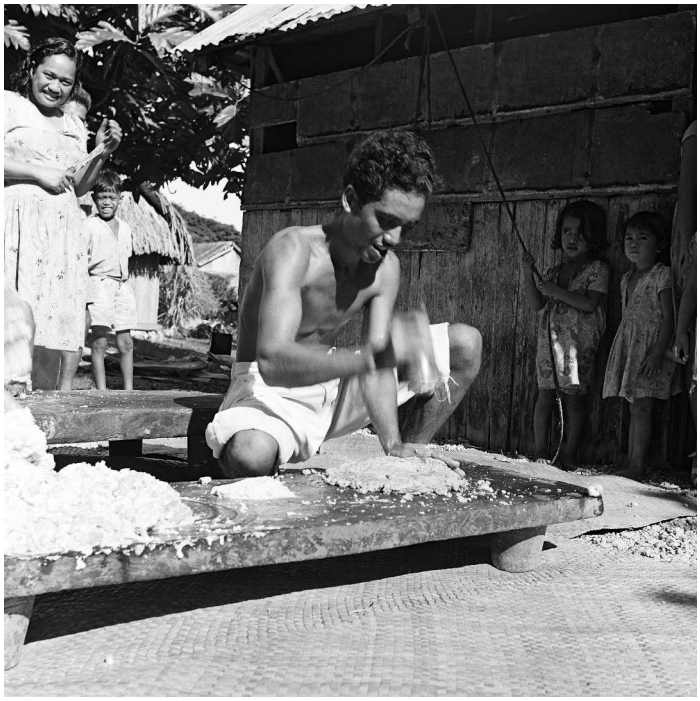
During the construction of a canoe, it was customary for the family to cook food for the workers, including pork, fish, mamio, poke, etc. The Aronga Mana of the puna would give the order -"ka tuki te poi" – “mash the poi.” Poi is made from mamio or taro that has been boiled, then mashed on a special platform (pa'ata) called papāʻia A stone pounder (reru) is used to mash the mamio, which is then mixed with coconut sauce.

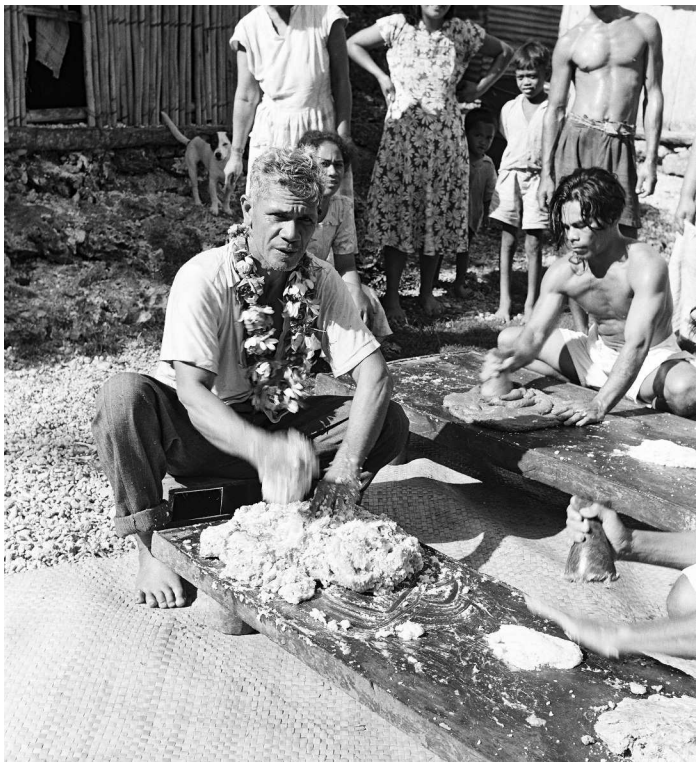
There are also special ta'unga involved in this type of work [see Appendix 2].

These high value foods are typical of the food associated with puna gatherings or communal work.

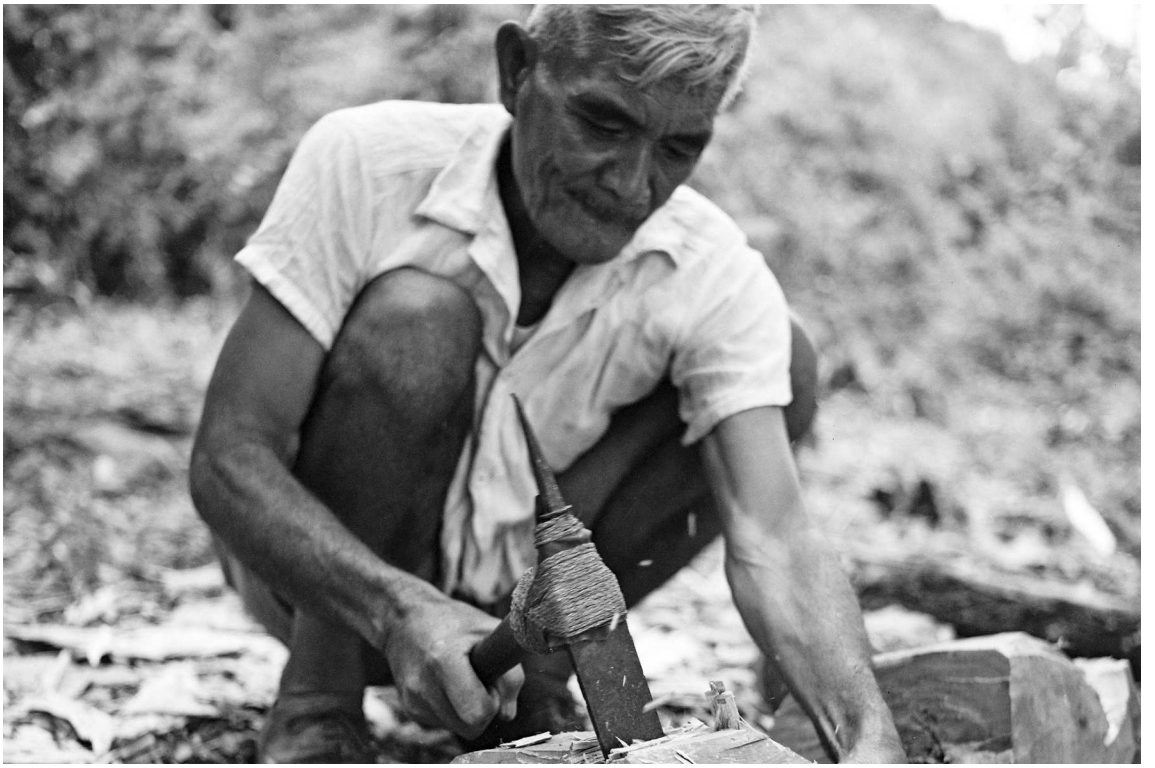
In this and other ways, the whole of the puna became involved in building the canoe.

I believe, in earlier times the dug-out canoes were blessed when they were first launched but I am unsure about this. I know that is was the custom for the poti papa [flat bottomed boat] and all the boats that came after that.





Poi is produced by mashing cooked starchy foods like mamio on a papā'ia (wooden pounding board) with a carved stone pestle (reru)."When the men on both sides are pounding, they pound in special rhythms and the women dance as they supply the taro to the men. A watchful eye is kept by one woman to make sure no man runs out of taro or ota. Other women wipe the sweat off the men. Women then mix the finished, pounded material (kareru) with some more ota and this action is called tapoa. The poi is now ready to eat." (Source; Ivi'iti 'Aerepo - see Appendix 2). In the photo, the small white pile is ota or grated coconut flesh. (Top right, foreground) 'Area'iiti; (bottom left) Ngai Muiti.



Au Vaka

Ua ropa te Puna katoatoa i tetai vaka no ratou.

Puna Tamarua	- 3 vaka e tere atu
Puna Ivirua	- 4 vaka e tere atu
Puna Veitātei	- 4 vaka e tere atu
Puna Kei'ā	- 4 vaka e tere atu
Puna Karanga	- 4 vaka e tere atu
Puna Tava'enga	- 7 vaka e tere atu

Kua/[Ua] tapa ia rai tetai au ingoa no te au vaka tataki ta'i mei tetai o te Tava'enga o "Kute" e tetai o te Kei'ā o "Pao-Te-Moa".

Aronga 'Oe

E taki ono (6) ana tangata 'oe. O teia oki mei te toru-nga'uru (30) tapuae te roa i te vaka (5 maro). Me roa atu te vaka, oia rai ia i te ngao i te aronga 'oe.

Mei teia te akano'o'anga i te aronga 'oe; e ta'i tangata i mua ake i te kiato i mua, e 'a i miri mai, e ta'i i miri ake i te kiato i miri. O te tangata i mua rava e to miri rava, e nga tangata tu'oe katoa raua.

E aronga tinamou te aronga 'oe vaka i te au ra pa'i.

'Oe

E ta'i-nga'uru-ma-rua (12) 'ini te roa i te rapa o te 'oe, e tona matoru e ta'i e te koata 'ini e te roa o te 'oe mei te 'a e te 'apa tapuae.

The Canoes

All of the 6 puna (districts) of the island had cargo canoes.

Puna Tamarua	- 3 or more canoes
Puna Ivirua	- 4 or more canoes
Puna Veitātei	- 4 or more canoes
Puna Kei'ā	- 4 or more canoes
Puna Karanga	- 4 or more canoes
Puna Tava'enga	- 7 or more canoes

Each of the canoes was named. One of Tava'enga's canoes was called ‘Kute’ (kō‘ute or 'bum') and one of the Kei'ā canoes was called ‘Pao-te-Moa’ (‘Top Shots’).

The Crew

There were generally 6 men in the crew of a cargo canoe of about thirty feet in length (5 maro). If the canoe was longer, more crew-members were required.

The crew were positioned as follows. One man was positioned forward of the front kiato, four men were located behind and one was positioned aft of the rear kiato. The men standing fore and aft were called the tu'oe (steersmen). The same crews worked the boats every boat day.

Oar

The blade (rapa) of the oar was about 12 inches long with a width of about 1¼ inches and the oar was about 4¼ feet long (*see diagrams, page 46 below*).

Te Ra 'Anga'anga Pa'i

O te Ariki (Numangatini) rai te pu aka'aere i te au vaka katoatoa i te ra o te pa'i i runga i te enua Mangaia.

O te akatomo vaka ra i te pae ava, na te au Pu Vaka rai e aka'aere e te akono i te 'anga'anga.

E 'anga'anga matau oki i te ra pa'i, oia oki, marama ake ana ua pou te kāko te ka apai atu i runga i te pa'i i te pae tai i mua i te ava. Tiaki ia tae mai te pa'i. Ngao te taime i te ra e tae mai ai te pa'i, mamao rai te pa'i i tai, ua akamata te au vaka i te uru i te moana, 'oe atu i te aru i te pa'i. O te tumu i te aru i te pa'i, ia pini ratou i te kāko no runga mai i te pa'i.

Te'ate'amamao'anga i te Ra Pa'i

Na te tu'oe (rangatira) e tuoro i te aronga 'oe, te'ate'amamao i te au 'oe, te taura e te vai atura i te a'ia'i i mua ake i te pa'i e te amo atu i te vaka i tai i te ava. Ka maranga ua oki e varu (8) me kore e ta'i-nga'uru (10) tangata i te vaka o ta'i. Are oki ratou e kika ana i to ratou vaka. E aere mai ana rai tetai au tangata no tetai au puna mai i te tauturu i te amo'anga.

Boat Day

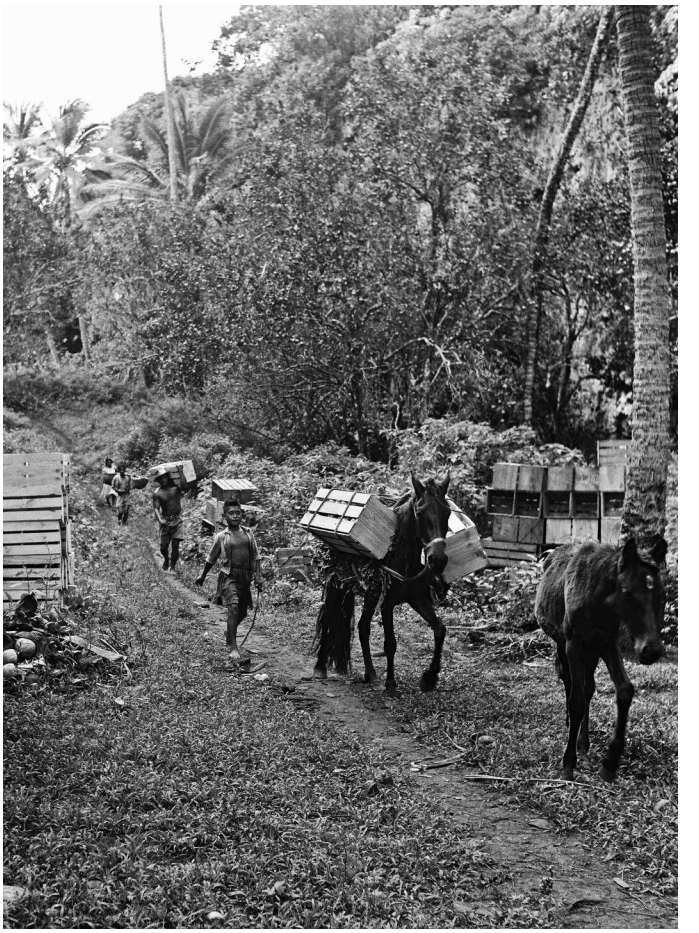
Numangatini Ariki (the island's chief) was the pu aka'aere (work leader) of all the canoes during boat days on Mangaia. [In later times, Ma’arona, kāvana of Veitātei, carried out this role with 'Akaiti, kāvana of Karanga]. But the loading of the canoes and the supervision of work at the wharf-side was primarily the responsibility of the boat leader [pu vaka] who might also be the tu’oe [1] or steersman of the canoe.

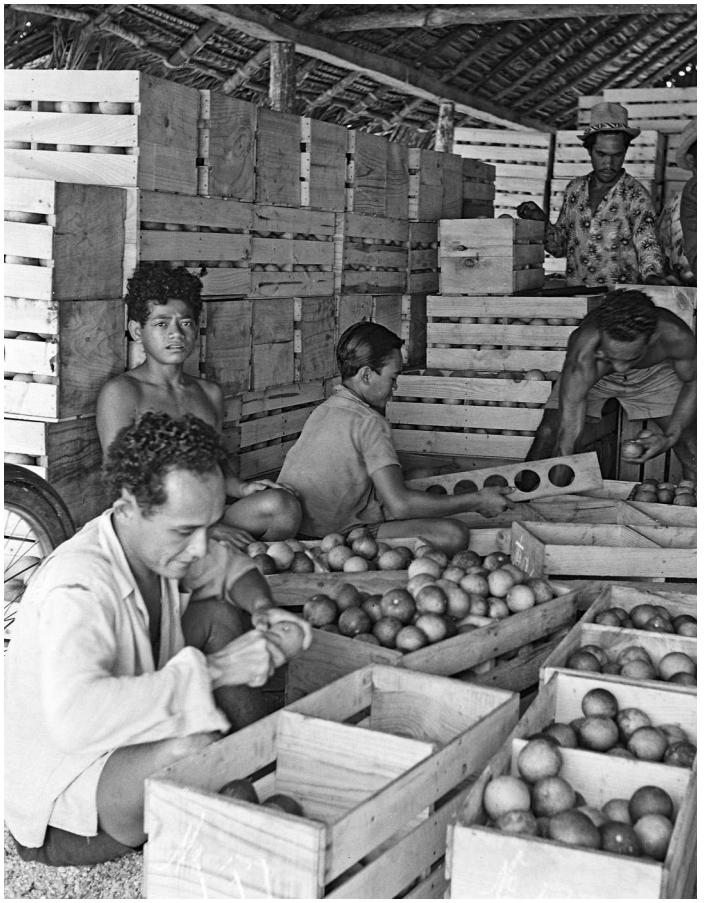
Generally, by sunrise of boat day, all the cargo for despatch would have been delivered to the wharf, ready for the ship to call. Even when the boat was still on the horizon, the canoes would begin to move outside the reef and position themselves to claim a share of inward cargo from the ship.

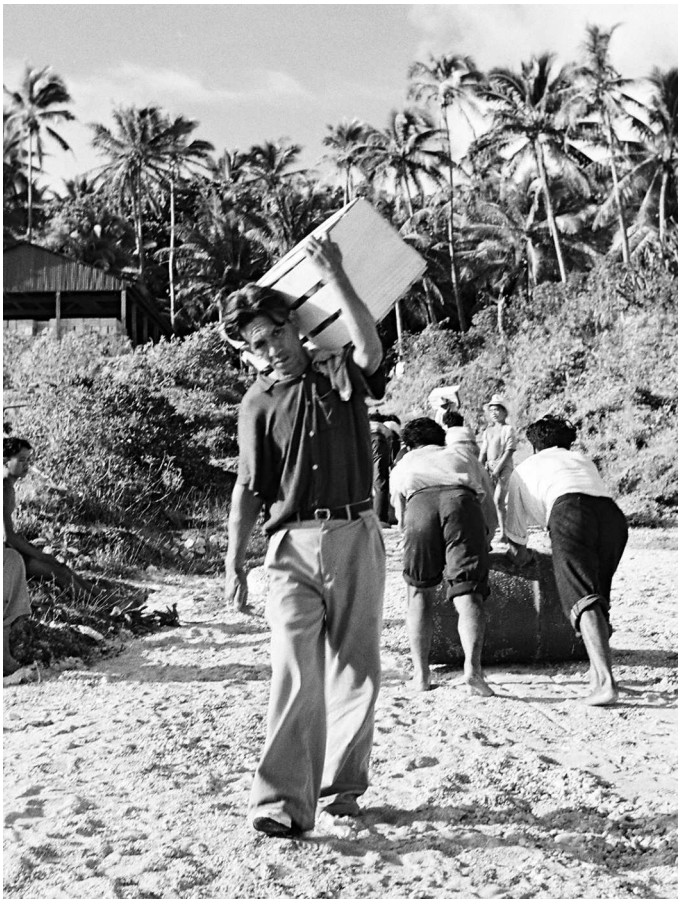
Preparations for Boat Day

On the evening before boat day, it was the job of the tu'oe to assemble the crew, prepare the oars, ropes and other equipment and arrange transport of the canoe from the boathouse to the wharf. About 8-10 people were needed to carry each canoe. The canoe could not be dragged along the ground (to protect the hull), so in addition to crew-members, the puna provided additional people to carry the canoes to the wharf.

[1] The tu’oe was also rangatira or captain of the boat - because the crew have their backs to the sea they always looked to the rangatira for direction.







(A*bove and below) Packing cases are marked with a circle to indicate the place of origin as Mangaia; the number identifies the grower. On occasions, if cargo space was restricted, each grower was allocated only a restricted number of cases.*

In 1915, a tramline for carrying cargo to the beach was installed and subsequently replaced by this cargo roller.

Tu Karape me Uru i te Moana

I te au ra pa'i katoatoa, ka 'anga'anga ia rai te pa'i noatu e e kino te tai (ngaru), are e no'o te 'anga'anga. [Ka] Na runga mai i te akau me uru i te moana e te oki mai i uta.

Na te tangata i mua rava i te vaka e kakaro i te ngaru, oia oki i te akapapa no te uru'anga i te moana e te uru mai anga i uta. I tetai taime, na te tu'ava i runga i te akau e akapapa mai i te ngaru. Me papa i reira, na te au tangata o runga i te akau e kounu i te vaka i te moana e i taua taime rai ua akamata te aronga 'oe i te 'oe pakari e topa uatu te vaka i te moana.

Me uru mai te vaka i runga i te akau, na te tangata rai i mua e akapapa i te ngaru e te tangata tu'ava katoa. E na te au tangata o runga i te akau e mou e oti 'uti atu i te vaka ia tae meitaki i runga i te akau. I reira 'uti atu ia tae i uta i te pi'aki.

Me tuku te vaka i te moana i te taime e papa ai, teia te tuoro a te tu'oe i mua -

"Konua!
Tukuna!"

I reira ua tuoro aia i te aronga 'oe -

"'Oea!
'Oe pakari!"

Going out to sea and returning to shore

On boat days, work was carried on even if the sea was rough. The canoes set out over the reef and returned to shore no matter what the condition of the sea. The tu'oe in the bow would look for the right wave to get the boat safely out to sea and the right wave for it to return safely to shore.

Sometimes, the tu'ava on the reef took on this responsibility. Stationed on the reef with overall responsibility for the canoe, the tu'ava could countermand the instructions of the tu'oe, if sea conditions demanded it. When it was time, the people on the reef launched the canoe into the sea.

At the same time, the crew would begin to paddle furiously until the canoe cleared the reef and reached the open sea.

When it was time for the canoe to return to shore, both the tu'oe in the bow and the tu'ava on the reef looked for the right wave to land the canoe. The tu'oe in the back held the head of the canoe steady with his steer. The men on the reef, pulling on a rope, hauled the canoe over the reef into the safety of the lagoon flat. But before that, with the canoe positioned on the right wave, the tu'oe would call -

Konua! Push!
Tukuna! Let Go!

Then he would call to the crew -

'Oea! Paddle!
'Oe pakari! Paddle hard!

Me uru mai i uta, me papa, ka tuoro te tangata tu'oe i mua i te vaka -

"'Oea!
'Oea!".

Me tae te vaka i runga i te akau, ua koto 'e'e te au tangata o runga i te akau e to runga i te vaka.

O te tamariki ta'i-nga'uru i te ta'i-nga'uru-ma-'a (10 - 14) mata'iti, o ratou te no'o ana i runga i te ama o te vaka i te taomi i raro. E 'opu ana te vaka i te pae pa'i, e i tetai taime, e taki ana te ama o te vaka.

Vaka Rama Māroro

O te vaka tari kako, e akariro ia ana te reira e vaka rama māroro E tautai mataora teia e te rauka i te maroro. E rave ia ana teia tautai i te 'ina poiri. O te turama i teia tautai nei e rama.

O te rama oki, e ruru kikau marō teia tei rurururu ia mei te 'a (4) kikau marō, e oti tapeka ia i te kiri'au ia piri meitaki. E tungi ia ana i na mua mai i te kikau. Te ka ra e te pau aere ua atu ra te rama, te tara aere ia ara te kiri'au. [1]

Me tae i te po ka aere ka rama, ka apai ia teia au rama nei. E rua me kore e toru rama e tungi ia ana i te taime o ta'i. E tangata mou rama rai tetai, o tana 'anga'anga ua rai te reira.

Once the canoe was safely landed, both the men on the reef and those in the canoe would break into laughter with relief. Even if the wrong decision had been made, even if the boat sank, there would still be laughter.

A couple of young boys, aged 10-14 years, were positioned on the outrigger to add weight and prevent the outrigger from rising up, especially as it pulled alongside the ship.

Canoes for Catching Flying Fish

Cargo canoes were also used for catching māroro or flying fish. This type of fishing is a lot of fun and flying fish are easily caught. This type of fishing is best carried out on very dark nights ('ina poiri). Previously, torches (rama) were used for lighting.

A rama was made of a bundle of around 4 dry coconut leaves tied together with a kiri'au. The torch was set alight from the front of the bundle. When the torch took alight, the kiri'au was untied. [2]

It was usual to take several torches out fishing. Two or three were lit at a time. One person had sole responsibility for holding the torch.

[1] O teia rama rai te rave ia ana i te ina puaka ngangao.
[2] This is the same rama that is used for scorching pigs.

(Above) Tuara Tua (below) Te Karotai Tangitoru

Poti Papa

Te roroa i teia poti nei, mei te rua-nga'uru-ma-rima (25) tapuae i te toru-nga'uru-ma-rua (32) tapuae. E ropa ia ana i te rakau papa'a e te rakau vi. O te 'ariki ia raro, e rakau Vi te reira e o nga pae e rakau papa'a (6x1 me kore 8x1). O te akaeta (frame) o te poti, e rakau vi me kore e rakau 'Au. E 'Au pakari tikai. Aore e ama i teia tu poti.

E ono aronga 'oe i te katoatoa i runga i te poti papa, te tu'oe i miri e te tangata i mua nana e tiara ana te taura me tae te poti papa i te runga i te akau/ava uruanga (e varu i te katoatoa).

Nga ta'unga no te ropa i te poti papa, o Teao tetai, no Mauke mai aia. O Enoka no Manihiki mai aia e e orometua SDA aia i tei reira tuatau. O raua nga ta'unga ngangao i te ropa i teia au poti papa me i to te Puna Karanga, Ivirua, Veitātei, Kei'ā, Tava'enga e to te Tamarua rai. E mea akaue ia oki te au Puna katoatoa e te Konitara Enua ia ropa i tetai poti papa no ratou. Ua ropa rai oki nga Kamupani o Ngavi'i e to Rere Takapi i tetai no raua.

I te reira tuatau, o te tutaki'anga i te vaka, poti papa e te poti ngangao i miri mai na te Konitara Enua te reira i tuku mai mei roto mai i ta ratou uipa'anga Konitara, oia oki e £4 i te tane i te aronga 'ona toa. I te Kavamani, e £2 i te tane. O te aronga keke, tei runga ua te reira i te au pu o te vaka me kore o te poti.

Poti papa– the flat bottomed cargo boat

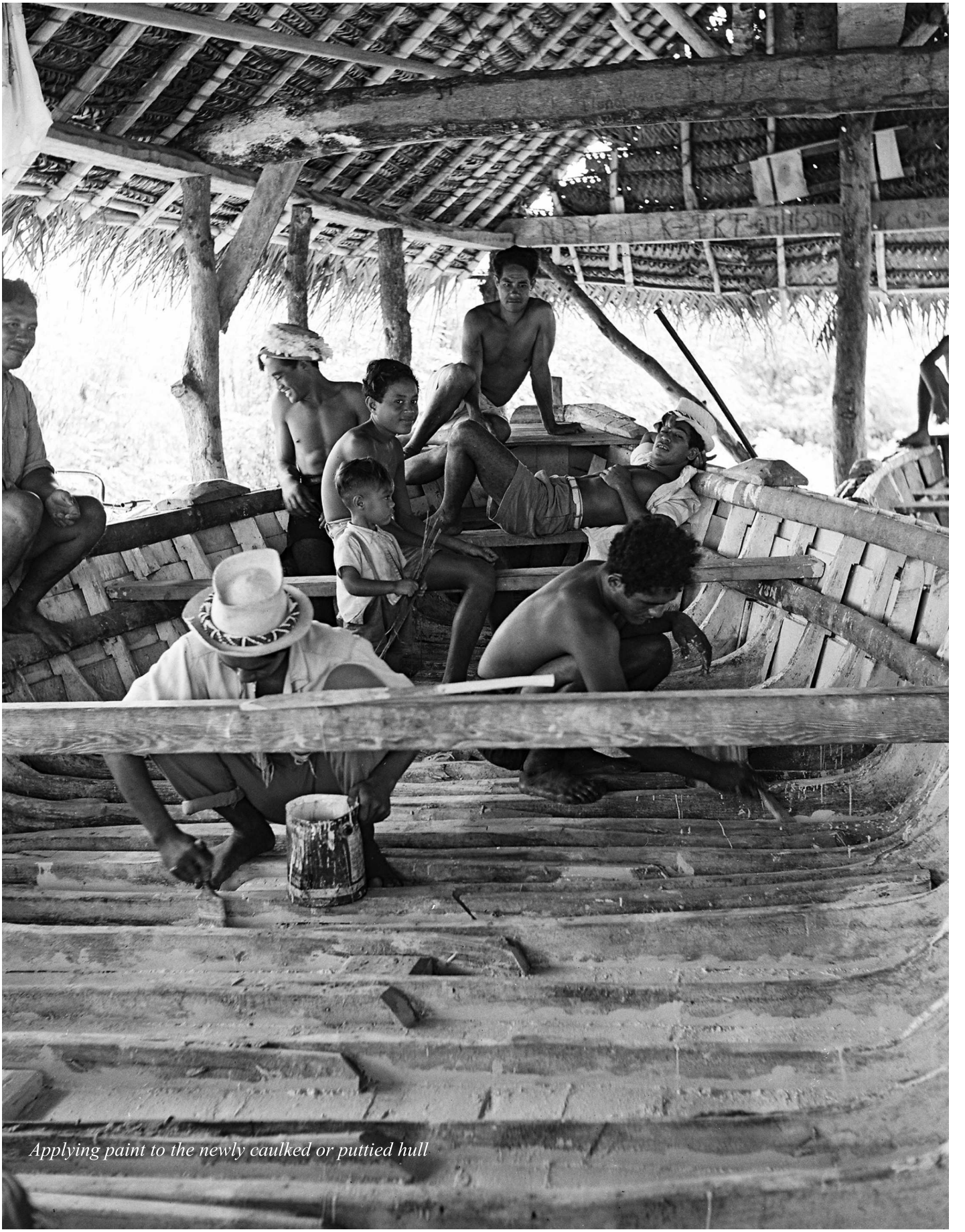
The flat bottomed boat or poti papa was about 25 - 32 feet long. It was made of European and mango woods. The bottom was made from mango wood while the sides were European wood (6 by 1 or 8 by 1 planks). The frame of the boat was also made from mango wood or 'Au - a very strong 'Au. There was no outrigger with this type of boat.

There were 6 men in the crew of the poti papa together with the tu'oe at the back and a man at the front who cast the rope as the boat reached the reef passage (a total of 8).

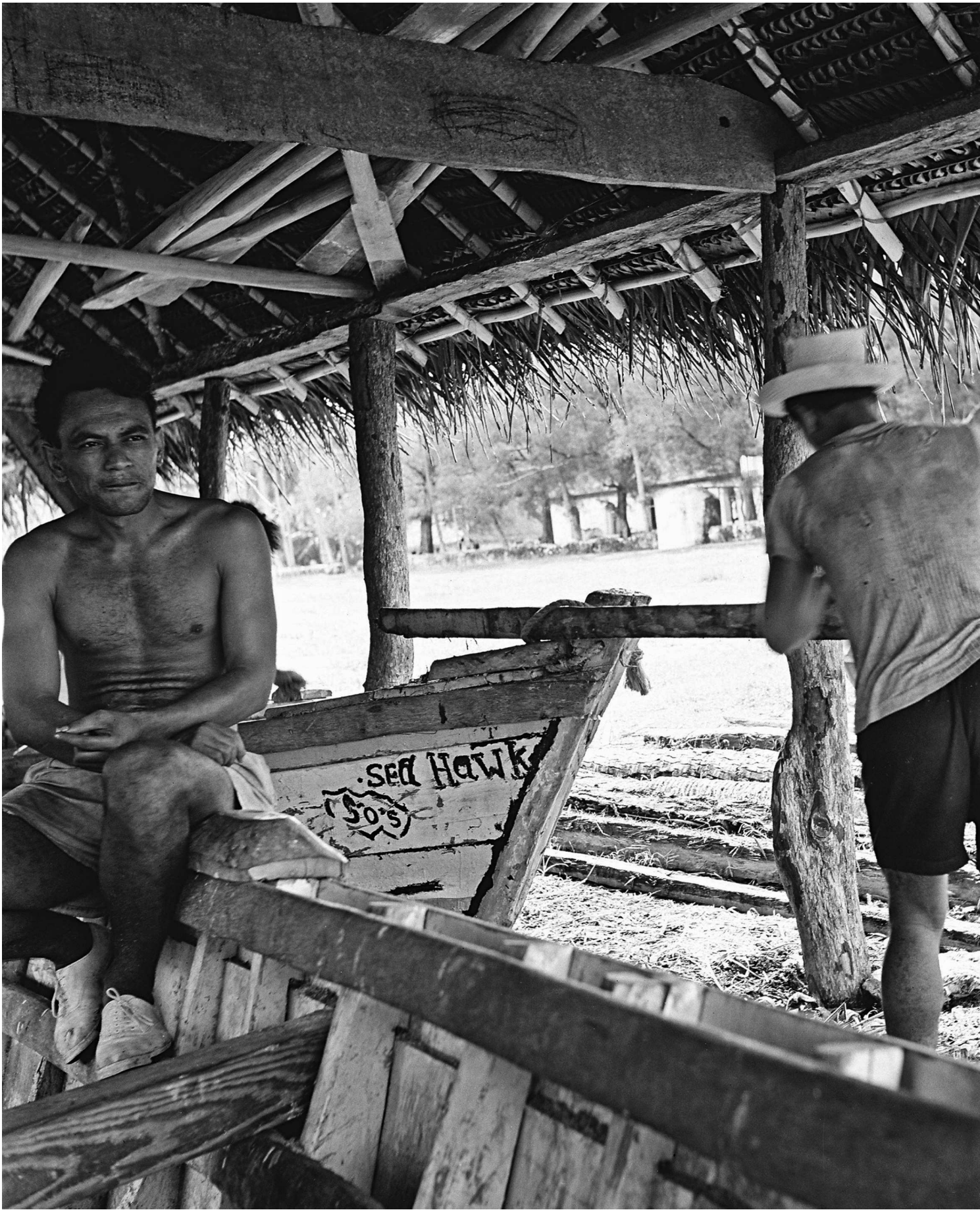
The method of going out into the sea and returning to shore was similar to that for cargo canoes. The two leading craftsmen (ta'unga) involved in construction of the poti papa were Teao from Ma'uke and Enoka from Manihiki (Enoka was a Seventh Day Adventist pastor on Mangaia at the time). All the puna had been told by the Island Council to make their own poti papa. The two companies of Ngavi'i and Rere Takapi [son of Tangi Rere] also made one boat each (*see below, page 99, for information on the boat companies*).

To pay for the landing services of the canoes and poti papa, the Island Council set the landing price at £4 a ton for shop owners and £2 for the Government. For others, it was the leader of the canoe (pu o te vaka) who determined the price.

At times, the boats were left outside for cracks to swell in the rain and widen in the sun. They were then repaired with putty or, if necessary, new boards.



Applying paint to the newly caulked or puttied hull


SEA HAWK
50'S

Te apai'anga mai o te toroka na runga mai i te vaka, ka uri mai uri atu te vaka e oti ua tapeka ia te pa'ata ia iri meitaki te toroka i runga. Ka akano'o ia te toroka ta tiroa i te vaka. Mama ua oki i reira no te aka'oro i runga i te enua me tae i uta. O te poti papa oki, ka vaito ua ia te atea, i reira ka tapeka ia ai te pa'ata. Me tae i uta, ka pa'ata ia rai mei runga i te vaka me kore poti i runga i te enua, no te aka'oro'anga i runga i te enua.

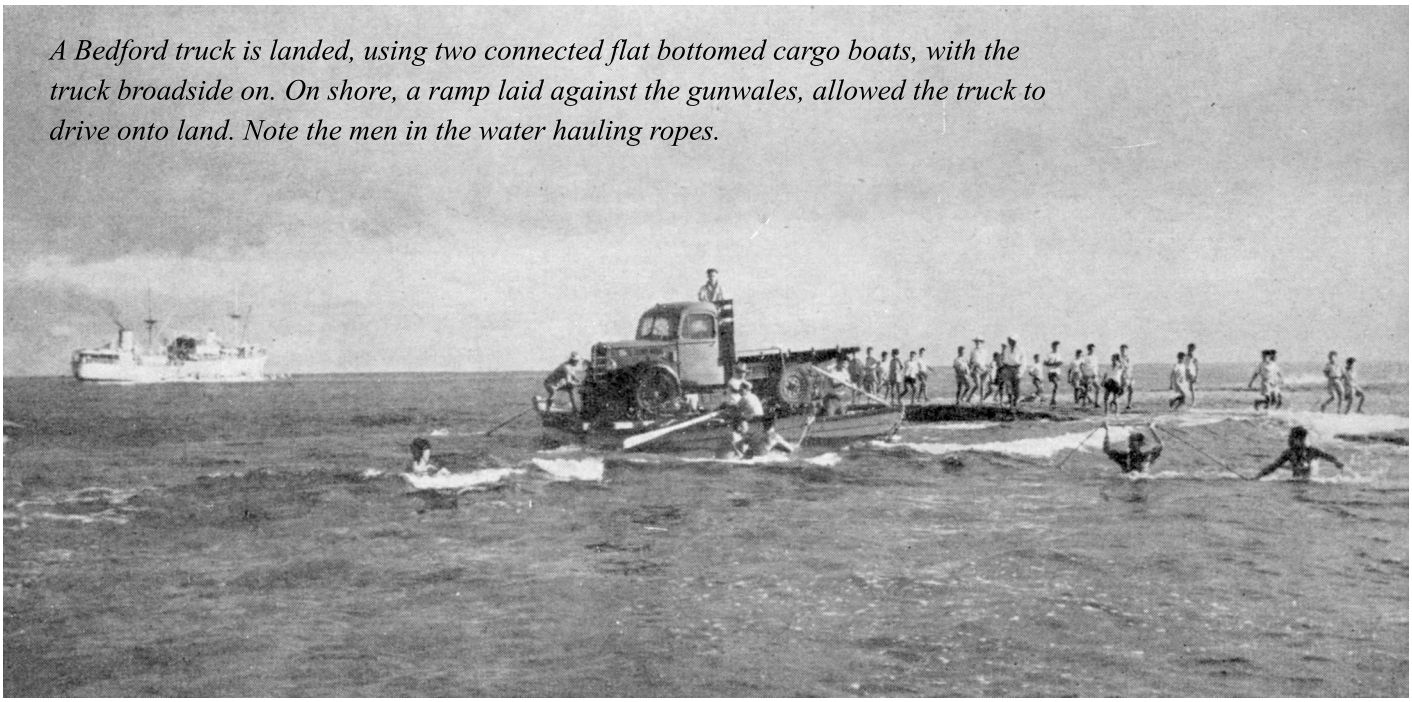
Te toroka mua i Mangaia, no te puna Tava'enga, te rua no tetai 'ona toa o te "Farmer" te ingoa. Te toru no te puna Ivirua [e] te 'a no te puna Kei'ā me kore no te puna Tamarua. E au toroka rikiriki ua teia, ka maranga mei te rua-nga'uru-ma-rima (25) pi'a anani.

I te tai kinokino, e tarevake ana rai te uru'anga i te moana e te uru'anga mai i uta. Me kapitia e te tai ngaru, ka ki te poti i te tai e ka 'opu i tetai taime e ka ma'u'u pau rava te kako.

When bringing trucks ashore, two canoes were placed in parallel [with outriggers on the outside] and a platform built across the two hulls to carry the truck. The vehicle was positioned along the length of the canoe making it possible to drive straight onto land when the canoe got to shore. On the poti papa, the truck was positioned broadside on. When the boat reached shore, ramps were raised against the gunwales of the boat to allow the truck to be driven ashore.

The first truck to land on Mangaia belonged to the puna Tava'enga, the second to a company named "Farmer" (the name of a man, in Maori ‘Pama’), the third to the puna Ivirua and the fourth to the puna Kei'ā or puna Tamarua. These were only small trucks that could carry about 25 cases of oranges.

During rough seas, some mistakes were inevitable in the passage to or from the ocean. Caught in high waves, the boats often took in water, and sometimes sank with loss or damage to the cargo.



A Bedford truck is landed, using two connected flat bottomed cargo boats, with the truck broadside on. On shore, a ramp laid against the gunwales, allowed the truck to drive onto land. Note the men in the water hauling ropes.

Kako Ruti

(Ma'u i te tai me kore i te ua; nga'ae te pi'a pepa; nga'a te pi'a e te vai atura).

O te au kāko mei teia te tu, are te reira e pira ia mai [ana] e te au 'ona toa me kore e te Kavamani.

E au ingoa rai to te vaka e pera to te poti papa, inara are e mau ana i te aronga taito o teia tuatau nei. Tei ma'ara mai i teia tuatau nei, te ingoa i tetai vaka o te Puna Kei'ā o "Pao-Te-Moa" e [t]o te poti papa o te Puna Veitātei, o "Te Auto'ora/[Te-Au-To'ora]". O te Kamupani o Rere Takapi, tei aka'aere ia mai e Vaevae Rani, o "Tio pakete" te ingoa i to ratou poti.

"Mangaian boatmen have a good idea of when to bring in passengers dry and when it would be salutary to give them a soaking. By chance they once lost a whole boatload of construction materials on the reef, because they did not want a Government fruit control scheme." (Rev. Bernard Thoroughgood, 1960, Not Quite Paradise, L.M.S. London)

"The Aronga Mana didn't want orange gassing on the island [imposed by the New Zealand Administration] so they dumped the [gassing] machinery into the surf on the way in." (Marshall, 1951-3; 261).

Lost Cargoes

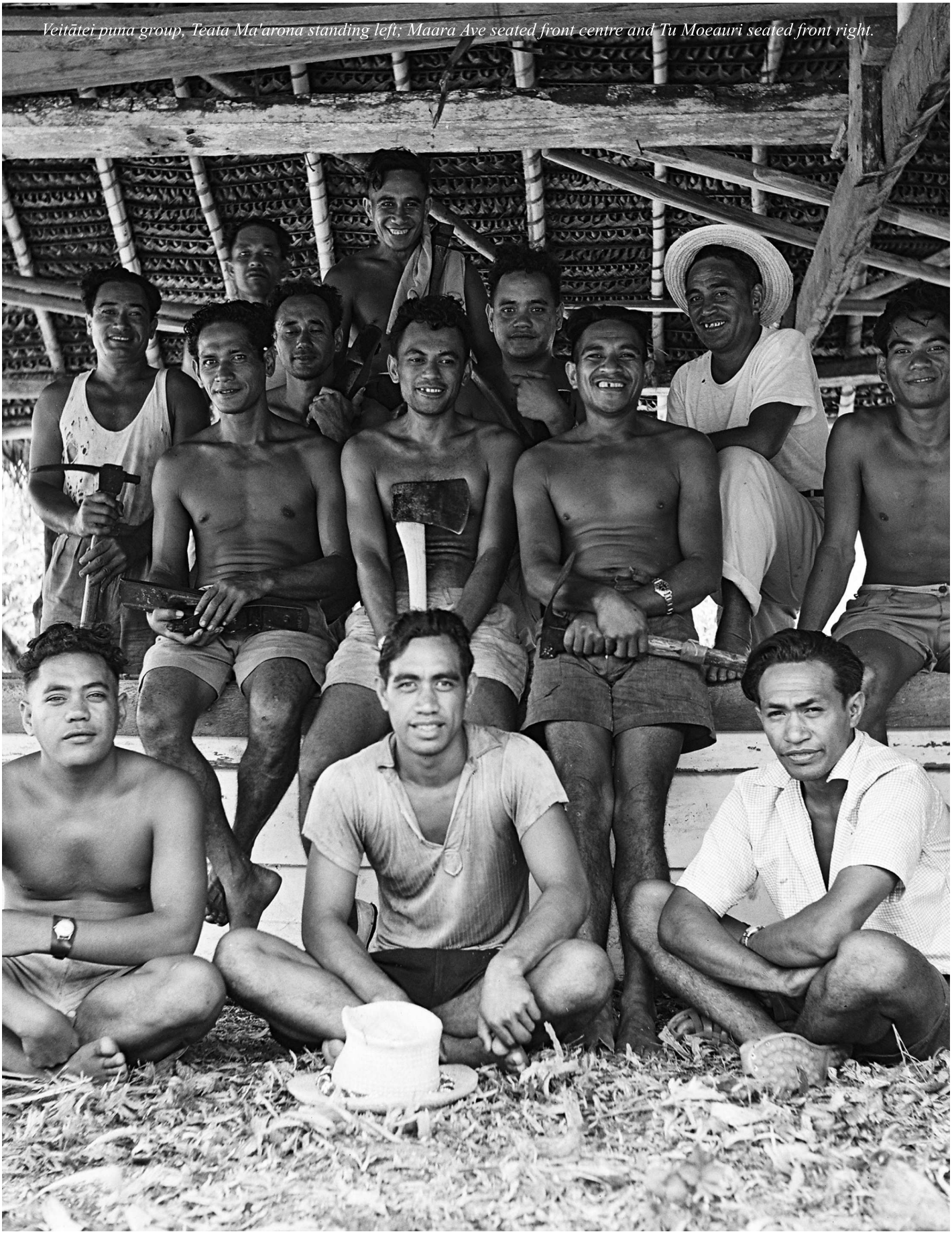
Shops owners and the Government were not charged for the landing of cargoes that were damaged by sea water or rain, or where paper cartons were ripped, or wooden crates broken.

[Naming the Boats]

The canoes and the poti papa all had names but old people today do not remember them. The only ones still remembered are a canoe belonging to the puna Kei'ā called 'Pao-te-Moa' (literally, Chicken Peck, figuratively, Top Shots), and a poti papa belonging to puna Veitātei's called Te Au To'ora (The Whales). The name of the boat belonging to the company of Rere Takapi under the leadership of Vaevae Rani, was 'Tio pakete' ('Joe's Bucket' - Vaevae Rani's Christian name was Joseph).

[D.S.Marshall adds " The Kei'ā boat is called "Te a puna vai mataora" - "The four happy wells." after the ancient name of Keia (1954/5; 219). Another boat, seen in the accompanying photos, was named "Sea Hawk". And one of the Ivirua boats was named "The Rising Sun" ('Itīnga Ra) denoting Ivirua's location on the east of the island. Additionally, as previously noted, one of Tava'enga's canoes was called 'Kute' (kō'ute or 'bum']

This is apparently an old custom - in 1844, when the missionaries William Gill and Maretu were about to depart Mangaia in search of Tuanaki, Parima, concerned that they were abandoning Mangaia, joked "If you weren't leaving Mrs. Maretu behind you'd find yourself soaking wet with seawater by and by." (Crocombe;1983; 171-2). Crocombe adds " A common way or dealing with visitors they did not like or had a grudge against was to overturn the boat taking them to the ship. It is still practised."



Veitātei puna group, Teata Ma'arona standing left; Maara Ave seated front centre and Tu Moeauri seated front right.

Kamupani Poti

Tea ('Shareholder's)

I te tuatau o te poti tari kāko, o te tangata te ka inangaro i nana tea i roto i te Kamupani poti, ka tutaki aia e ta'i-nga'uru tiringi (10 shillings = $1.00). Ka akatika ia te tane, vaine e te tamariki.

I roto i te Kamupani poti o te puna, are e na te kavana e aka'aere, me kore are o te kāvana te pu o te Kamupani poti. Ka 'iki te au mema e tea ta ratou i tetai pu aka'aere no ratou, tetai tekeretere, tetai mou moni e tetai tu'oe poti e tetai tauturu nona. O te au tane, o ratou te aronga 'oe e e karanga ia ana ratou e aronga aere moana. E toko ono (6) me kore e toko varu (8) ratou [i te katoatoa], tei runga ua i te ngangao o te poti. O te katoatoa i reira, ka inangaro ia ratou no te 'anga'anga i uta tari kāko i te pae tai akatomo i te poti, e te 'uri mai i te kāko mei roto mai i te poti no runga mai i te pa'i.

Cargo Boat Companies

Shareholders

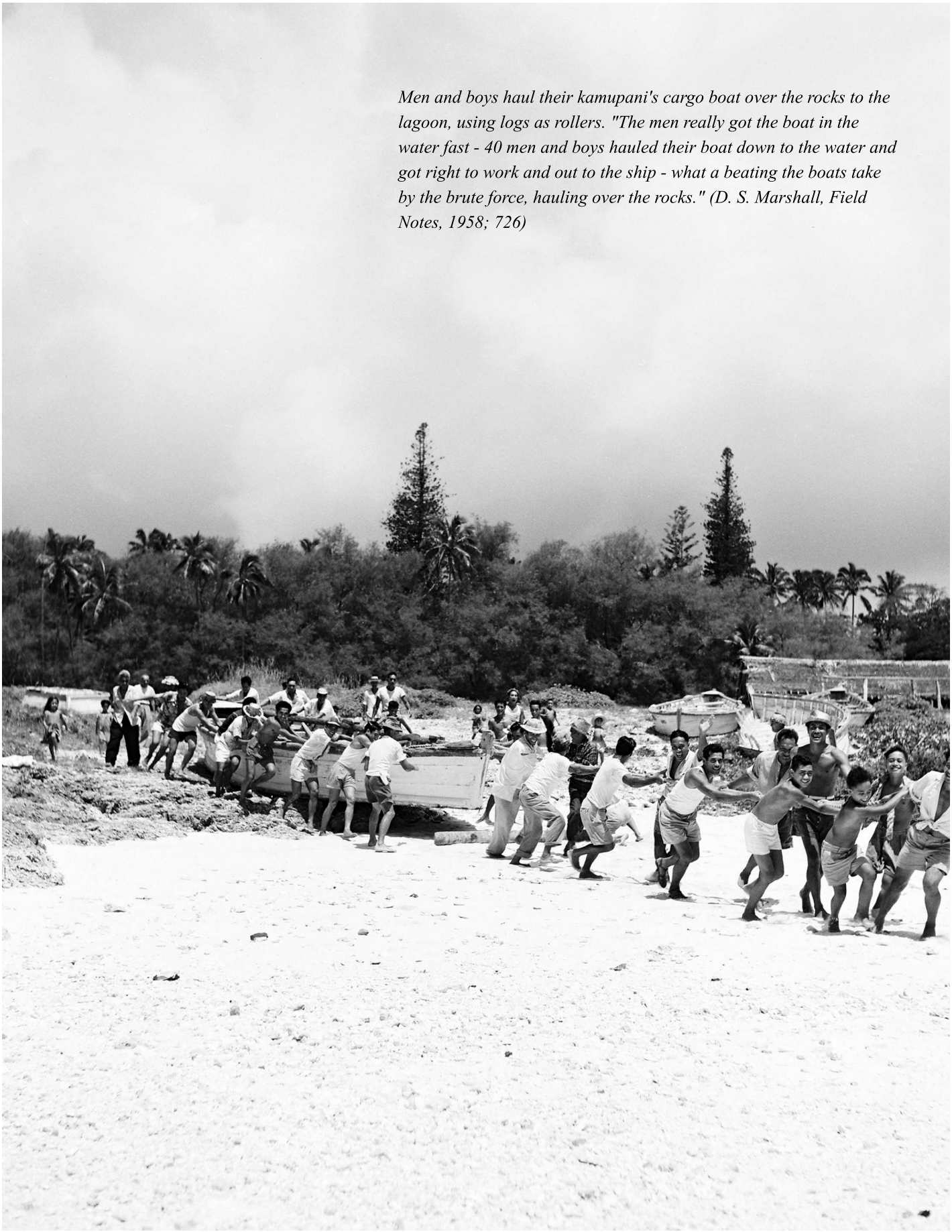
In the time of the cargo boats, those who wanted a share in the boat company paid 10/- ($1.00) a share. Men, women and children were permitted to be shareholders.

The kāvana or district chief did not control the puna boat company. Instead, the shareholders elected a chairman, a secretary, a treasurer, a tu'oe (steersman for the boat) and an assistant for the tu'oe.

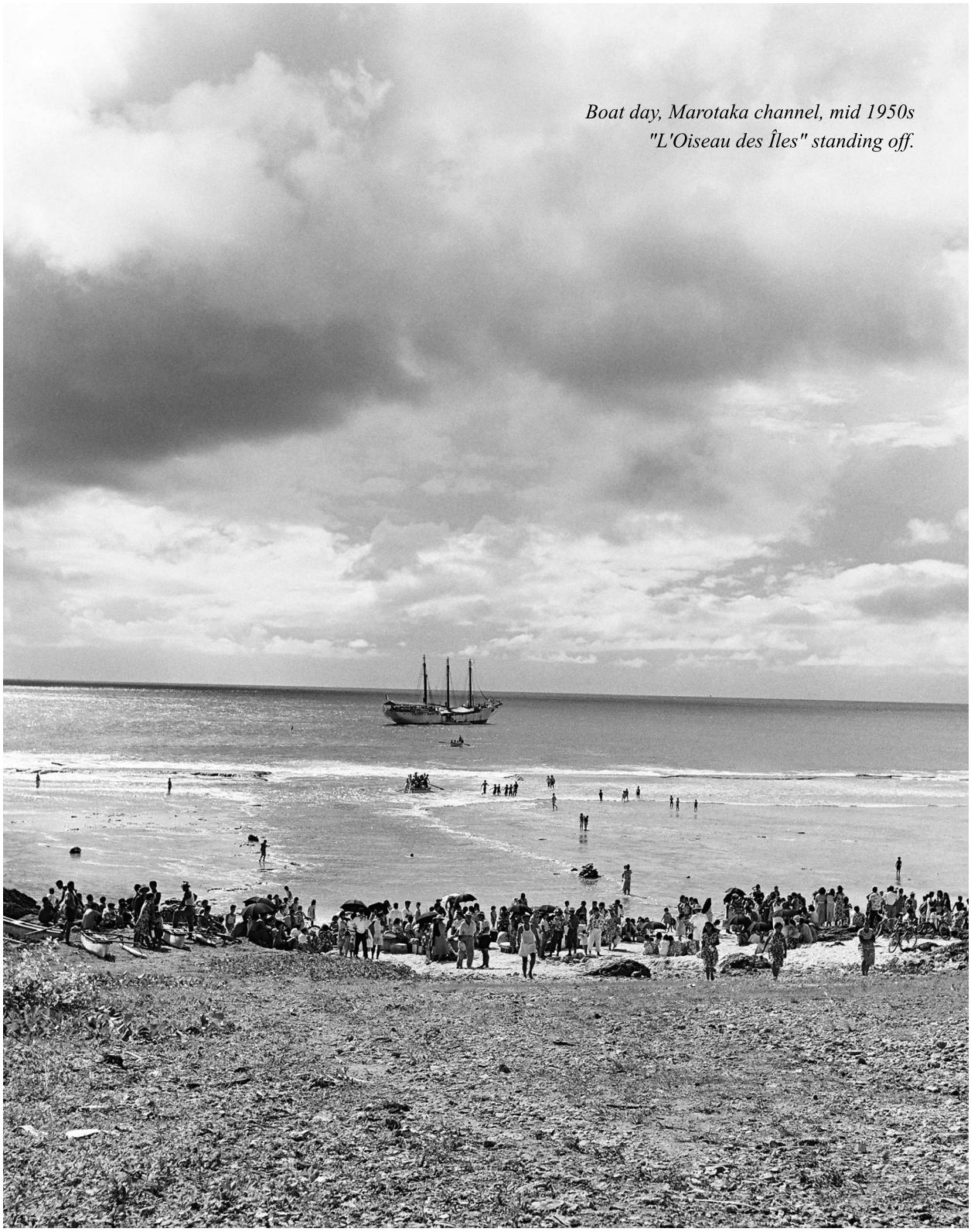
[On the cargo canoe the tu’oe at the front and back were both "rangatira" - the poti papa had only one tu’oe at the back].

The male shareholders provided the crew of the boat - the "sea men" - about 6 or 8 depending on the size of the boat. The rest of the male shareholders worked ashore, taking the cargo to the wharf and unloading incoming cargo from the boat.

Some people, like teachers and other government workers had shares in the boats but did not work them. They still received a share of the profits. The shareholders who worked on boat day received an additional wage on boat day for their work.



Men and boys haul their kamupani's cargo boat over the rocks to the lagoon, using logs as rollers. "The men really got the boat in the water fast - 40 men and boys hauled their boat down to the water and got right to work and out to the ship - what a beating the boats take by the brute force, hauling over the rocks." (D. S. Marshall, Field Notes, 1958; 726)



Boat day, Marotaka channel, mid 1950s
"L'Oiseau des Îles" standing off.

Ra Pa'i-Tima

I te aengata rai i te ra pa'i, ka rutu ia te ove e te 'oro'oro ui rangatira o te kāvana, na roto i te oire. Ka rutu aia mei te ta'i-nga'uru (10) maro te mamao i reira ka tu aia e ka tuoro -

"E tu i runga, ua tae oa te pa'i. Te aronga o runga i te poti, e tu aere mai ka kika te poti i tai. Te'ate'amamao i te pine o te poti, te 'oe, te taura. Te aronga o uta, e tu aere mai ka kika te poti i tai. Te au mama, oroa mai te poke, ta'ua mai te mamio e tetai kinaki ei kai na te aronga 'anga'anga."

I reira ua rutu akaou aia i tana ove. A te reira ua aia e tae uatu i te 'ope oire. I miri iti ua mai, ka akarongo koe i te vu'u i runga i te aranui, te tangata te aere atura i ko i te ava.

Te taime e rava ai te tangata, ka tapeka ia tetai taura i runga i te pou i runga i te poki o te poti, mei tetai rima (5) maro (toru-nga'uru (30) tapuae) te roa. Ka mou te tangata i te taura e tetai pae ka mou takapini i te poti, i reira ka kika i te poti i raro i te tai. Ka na runga te poti i tetai au potopotonga rakau tei tauru ia na raro ake i te poti. Tere ua oki [i reira] te poti na runga. Tetai ingoa oki o taua rakau ra e rora. Ka tuoro mai oki tetai tangata tapatapa -"Ē reti ē, ē reti ē."

I reira ua 'uti te tangata i te taura, e ua tupeke te aronga i ko i te poti. Me no'o te poti, ua tuoro akaou te tangata tapatapa. Mei te reira ua rai e tae uatu te poti i roto i te tai. I tetai taime oki, me tuoro te tangata tapatapa -"Ē reti ē, ē reti ē."

Steamship Day

In the early morning of boat days, one of the 'ui rangatira (sub-district chiefs) of the kāvana walked through the village beating a drum (an ove /pate). He would beat the drum for a distance of about 10 maro, then call out -

“Wake up, the boat has arrived. Those on the boat, wake up, we are going to drag the boat into the sea. Prepare the oarlocks, the oars and the rest. Those on shore, wake up and come. We are going to drag the boat into the sea. Mothers, scrape some poke, cook some mamio and some kinaki [1] for the workers to eat.”

The rangatira would then beat his drum again, repeating the process until reaching the end of the village. Shortly afterwards, murmurings would be heard on the road, as people made their way to the wharf. When there were enough people, a rope of about 5 maro (30 feet) was tied to a post on the bow. Some men held the rope while others held the hull, dragging the boat towards the sea. Wooden rollers were put under the hull, making it easy to slide the boat into the water. All this activity was accompanied by a tapatapa or chant to help people pull together in unison; "Heave ho! ("ē reti ē, ē reti ē").

At this point, the people would start to pull on the rope while those at the stern began to push. If the boat came to a halt, the person calling the tapatapa would call again - "Heave ho!"("ē reti ē, ē reti ē").

[1] Other food designed to complement, in this case, the taro and poi.

E pa'u ana te aronga 'uti e te aronga tupeke -

"Ua ngao!"

Ua kata te tangata i reira.

Mei teia rai te tu i te peu e 'utia ia mai ana te poti i uta me oti te 'anga'anga pa'i. Ka 'uti roa mai te poti e tae uatu i roto i te are. Oia oki e 'are poti'. E akono meitaki ana te tangata i te reira tuatau i te poti.

Ua akamata te tangata i reira i te tari i te pi'a anani, te pute akari (kopara) e tetai uatu kāko no te tuku atu i Nu Tireni, i tai i te pae tai i reira ua tia ratou i teia au kāko nei. Ia papa oki teia au kāko nei i tai i te te'ate'amamao. Me pau mai te kako o runga i te pa'i, akamata rava te tari i te kāko o uta i runga i te pa'i.

Mei te ora ta'i-nga'uru-i-te-tuaero, ua tae mai te manga a te au mama. Kai manga rava oki te aronga 'anga'anga poti e te aronga o uta. Ka akairo ia rai te ingoa o te au mama tei apai manga mai e te manga ta ratou i apai mai. Ka inangaro ia te reira no te tuatau e tu'a ia ai te moni (koia/[oia] oki, moni taritari). E tu'anga rai ta te aronga ta'u manga. E te'ate'amamao ana te au mama i ta ratou manga ka ta'u i mua ake i te ra pa'i (tima).

Mei teia nei rai te tu o te te'ate'amamao'anga o te au pa'i e teretere ana i roto i te pa enua e te angai'anga i te manga, me tae mai i A'ua'u nei.

The would provoke a response from the people pushing -

"Ua ngao! (Big Balls!)" (the equivalent of saying “get stuffed!”)

Then everyone would laugh.

They did the same thing when dragging the boats back ashore at the end of the day, taking the vessels back to the village shed. (The people of those days looked after their boats properly).

The cargoes destined for New Zealand (cases of oranges, sacks of copra etc) were then stacked on the shore. When they had finished unloading cargo from the boat they loaded the export cargo and ferried it out to the ship.

At about 10 minutes to noon, the food arrived. The crew of the boat and those ashore ate their food right away. The names of the women who brought food were noted with details of the food they contributed. This information was later used in the distribution of the monies earned from lighterage (moni taritari /money from lighter charges). Those who prepared the food were each allocated a share. The women preparing the food cooked it on the day before the steamship arrived. The same arrangements were made for inter-island boats as for steamers when they reached Mangaia.

(Above) 1950s - Government cargo shed on left and Veitātei canoe shed on right. (Below) 1930s - In-transit ship passengers take lunch (Photos - D. S. Marshall and S.M. Lambert).

O te tu o te 'Anga'anga Pa'i

Tei tai rai te pa'i, ua akamata te au poti i te uru i te moana. I mua ava ratou tiaki ai i te pa'i i te tutau'anga. O te tumu i pera ai, ka inangaro te poti ia tapiri mua aia i te pae pa'i e ka kakekake e tai o te au tangata o roto i te poti i runga i te pa'i no te va'i i te ati. Me nga'a te ati, ka no'o aere ratou i runga i te kāko, na ratou i reira te kāko mei runga atu e tae atu i raro roa i te ati. E aru ana rai tetai au tangata o tetai atu Kamupani poti na runga i te poti o tetai Kamupani ke atu. O te akakoro'anga rai, no te taukirikiriti kāko i runga i te pa'i. E tupu ana teia i runga i te au pa'i rikiriki o te Kuki Airani. O te au tima ra, ka inangaro te poti ia tae mua aia i te pae pa'i i te nga'i e ivi ia mai ai te neti kāko. Pera rai te kāko o uta, ka tia ake, ka tia ake rai tera Kamupani i tana kāko. Ka rapu rai te reira poti ia pou mai tana no runga mai i te pa'i e tana o uta atu nei. Are oki ratou e taime i ta tetai.

Me akatomo ia te poti i te kāko o uta atu nei, ka ta re te tangata tare kāko i te au kāko pouroa i te taime e tuku ia ai i roto i te poti. Te kāko no runga mai i te pa'i, ka akapapa na mua na runga i te ingoa o runga i te apinga, i reira ka tare ai.

I te reira tuatau, o te moni i te tane kāko e 'a (4.0.0) paunu i te tane ($8.00). Te aronga keke (private) e moni tuku ua te reira na te Kamupani, e pera te patete e ta ratou kāko ka apai e te patete no runga mai i te pa'i.

The way the boats were worked

As the ship came into view, the cargo boats began to move out into the sea, standing off in front of the channel waiting for the ship to anchor. Every boat aimed to be the first alongside the ship to get their crew-members on-board before the opening of the hatch. When the hatch was opened, the canoe-men scrambled to sit on a section of the cargo and claim everything beneath them - to the bottom of the hold - for their boat or canoe. The idea was to ensure that some of the cargo on the ship was allocated to each boat for trans-shipment to shore.

This also happened with the small inter-island vessels calling at Mangaia. But in the case of very large steamships, the boats competed to be the first ones closest to the ship’s cargo nets. This competition for cargo also happened with the outgoing cargo on shore. Each company checked off their own. Each boat would work hard to finish its cargo from the ship and also those from shore. They did not bother about the others.

With outgoing cargo, the tally-man counted the cargo as it was being put into the boat. Cargoes coming from the ship were stacked in the alphabetical order of the consignee’s name before they were counted.

In those days, the cost for trans-shipping was £4 a ton ($8.00). For private consignments, the company also charged passengers to carry both them and their luggage ashore.

1950s - Mangaian flat-bottomed tender returns to shore (photo; D. S. Marshall).

Poti Rakau

O te pou i miri e to mua, no te tapeka taura te reira. Nga 'oe i miri e mua (4) e au 'oe potopoto ia. Nga 'oe i rotopu (4), e au 'oe roroa ia. O te 'oe tu'oe, e 'oe roa kino te reira.

E Nu te rakau e ropa ia ana te 'oe, e Nu pakari, e Nu taito.

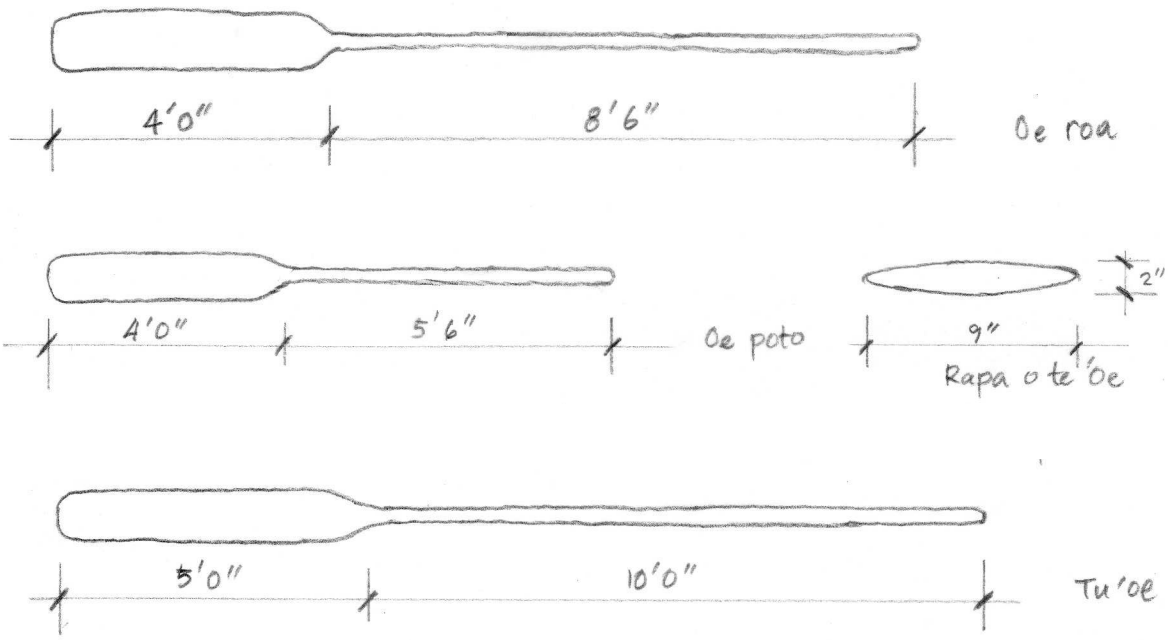
E aka au ana te 'oe i te poti. Ka uri te aronga 'oe i miri. Ka aka au pouroa te 'oe i ta nga tangata i miri. Me akapera oki, ka pau te tere o te poti. Ka kite te tu'oe e are e tano ana ta tetai tangata 'oe, ka tamaki aia. E ta'i me kore e rua nga tamariki kapu tai, e varu i te ta'i-nga'uru-ma-rua (8 - 12) mata'iti.

Wooden Boats

The posts at the front and at the back of the canoe are for tying ropes. The four oars at the front and at the back are short in length. The ones in the middle are long. The tu'oe's oar is a long oar.

The oars are made from Nu (the coconut tree), preferably an old and strong coconut tree.

The oars have to be paddled evenly ('aka au – with the same rhythm/movement). The crew face the back of the boat. The two oarsmen sitting next to the steersman or tu'oe at the back of the boat, set the stroke. All of the other rowers keep rhythm with this stroke. That way, the boat will reach and maintain top speed. The tu'oe will know if someone's oar is not keeping rhythm and will tell him off. The crew also includes one or two young boys (aged about 8-12 years) whose job is to bail the seawater out.



(Top) - oar used by oarsmen on the poti papa; (middle) - short oar used on the cargo canoe; (bottom) - long oar used by steersman or sweep on the poti papa.

Te Uru'anga i te Moana e te Uru'anga i Uta

Tai Kino (kinokino)

Ka na raro rai i te ava me uru i te moana. Ka tiria mai te taura o miri e ka maumau ua te au tangata o uta e ka tapu ua i te taura i te akapapa i te ngaru ia papa. Na te tu’ava e te tu'oe e akapapa. Me papa, ka tuoro mai te tu’ava e pera [rai] te tu'oe -

"Tukua te taura!
'Oea!
'Oea!"

Ua 'oe pakari i reira te aronga 'oe. Me ka tano te kinokino o te tai i te uru mai na raro i te ava, ka tu te tu’ava i runga i te akau no te akauru mai i te poti. Ka aere katoa te au tangata o uta no te 'uti mai i te poti e te tauturu katoa i te aronga 'oe. Mei teia oki te au tara i te akapapa'anga -

Tu'oe -
"Maumau atu!
'Aka au te 'oe!"

Me are i tano, ka karanga aia -
"Tani mai!"

Te kakaro katoa ra oki te tu'oe e te tu’ava i runga i te akau. Ka tareva rima ua oki te tu’ava no te mea are e rongo ia tana tara. Te tare nei oki te tu'oe i te ngaru e pari ra i runga i te akau. Te pera katoa ra [rai] te tu’ava.

Going out to Sea and Coming Ashore

In rough seas

In rough seas, the canoe will still go out through the reef channel. The rope at the back of the boat will be thrown to people ashore to hold the boat in position until the waves are ready. The tu’ava and the tu'oe will check the waves. When all is ready, the tu’ava and the tu'oe will call -

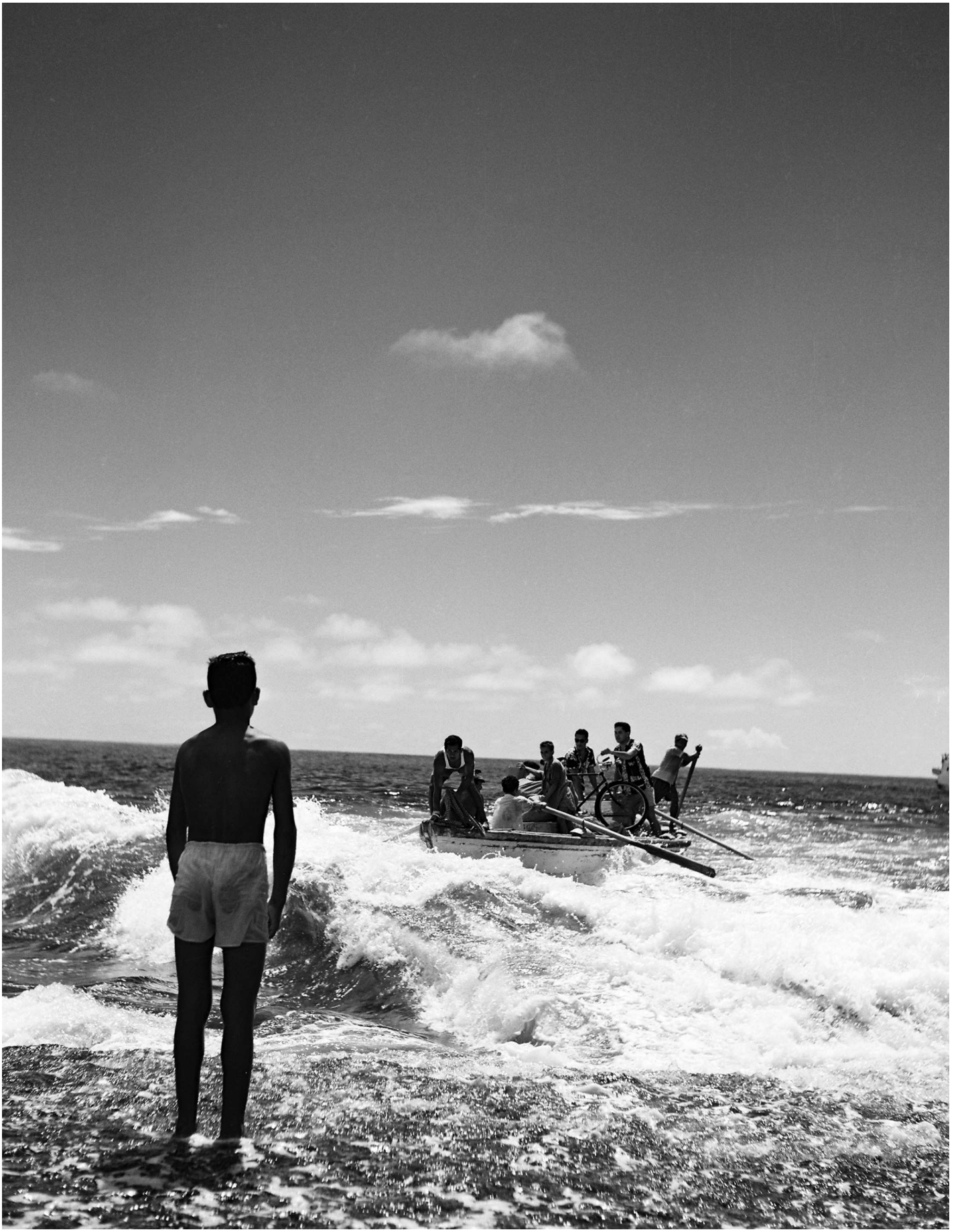
"Release the rope!
Paddle!
Paddle!"

If the sea remains rough but it is still possible to come back through the channel, the tu’ava will stand on the reef to guide the boat back to shore. The people on shore will pull the boat ashore with a rope. These are the sayings when preparing to come back ashore -

Tu'oe -
"Maumau atu! Hold steady
'Aka au te 'oe! Even stroke!"

When the sea conditions do not favour them, he will say -
"Tani mai! Stand by!"

The tu'oe will keep in close contact with the tu’ava on the reef. The tu’ava can only wave his hands as his call cannot be heard over the sound of the waves. The tu'oe counts the number of waves breaking on the reef. The tu’ava does the same thing.



E putuputu oki e 'a (4) ngaru. Nga ngaru mua e rua, e ngaru ngangao. O te toru, e ngaru iti mai e o te 'a, e ngaru iti rava. I miri ake i te 'a, ua papa i reira. No reira i miri ake i te rua o te ngaru, ua akamata te poti i te tapiri i uta. Me kakaro te tu'oe e ka papa i te 'a o te ngaru, ka tuoro aia -

"Maumau atu!
Maumau atu!"

Me papa, ka tuoro aia i te 'a o te ngaru -

"'Oea!
'Oea!"

Ka takamo mai rai te tu'ava i tona rima. Me vaitata te poti i te akau, ka tiara ia mai te taura i ko i te pupu tangata i runga i te akau. I reira ka 'uti ratou i te poti i uta, i mua ake ka tae akaou ai te ngaru. Aiteite rai te akauru'anga me na runga i te akau. Are e manamanata i te tai meitaki.

If the waves come in sets of four, the first two waves will be big waves, the third a smaller one and the fourth a very small wave. After the fourth wave, the boat is made ready. Then after the second wave, the boat will position itself closer to shore. If the tu'oe thinks it is safe to come ashore on the fourth wave, he will call –

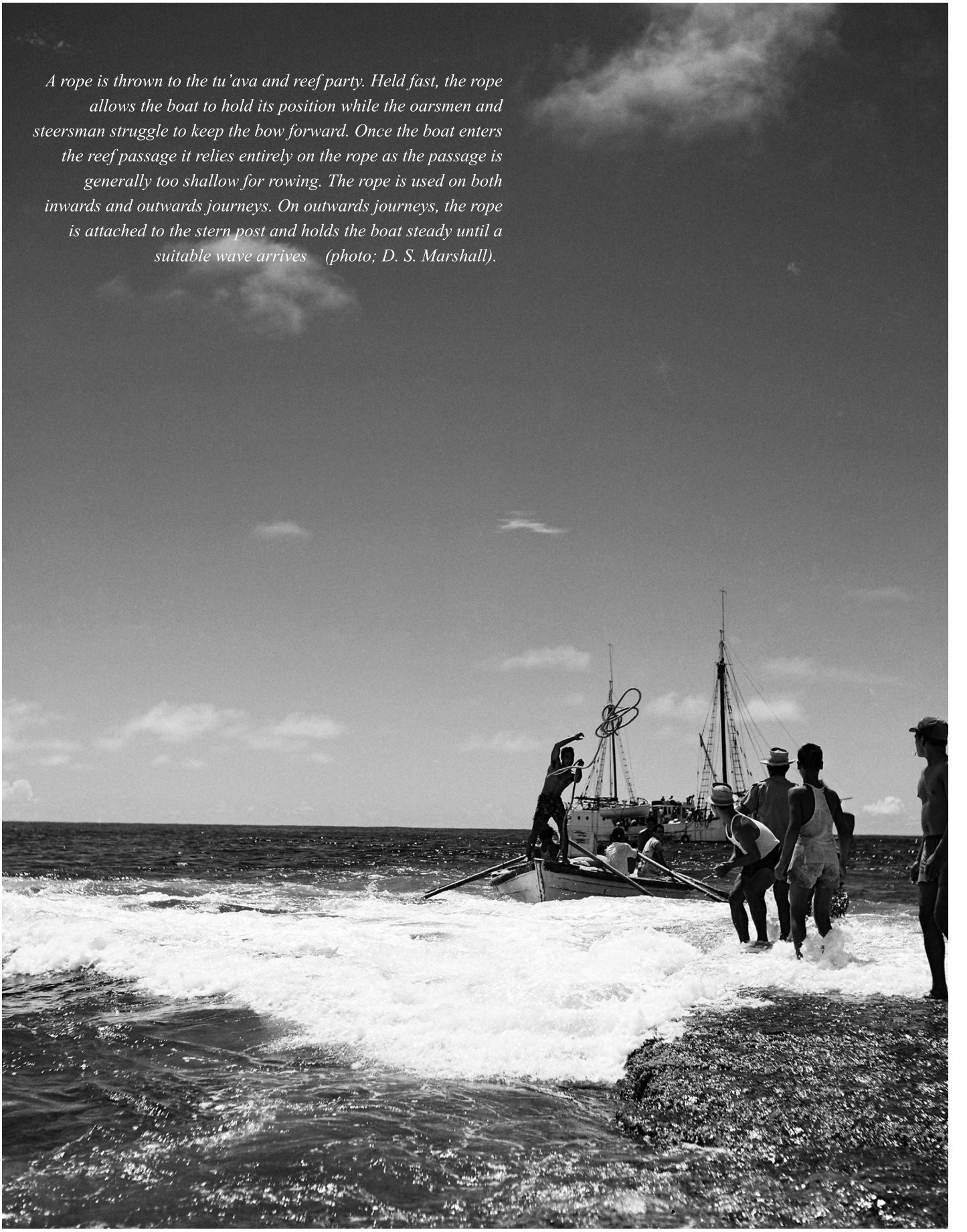
"Maumau atu! "Hold Steady!
Maumau atu!" Hold Steady!"

When the crew are ready, he will call on the fourth wave -

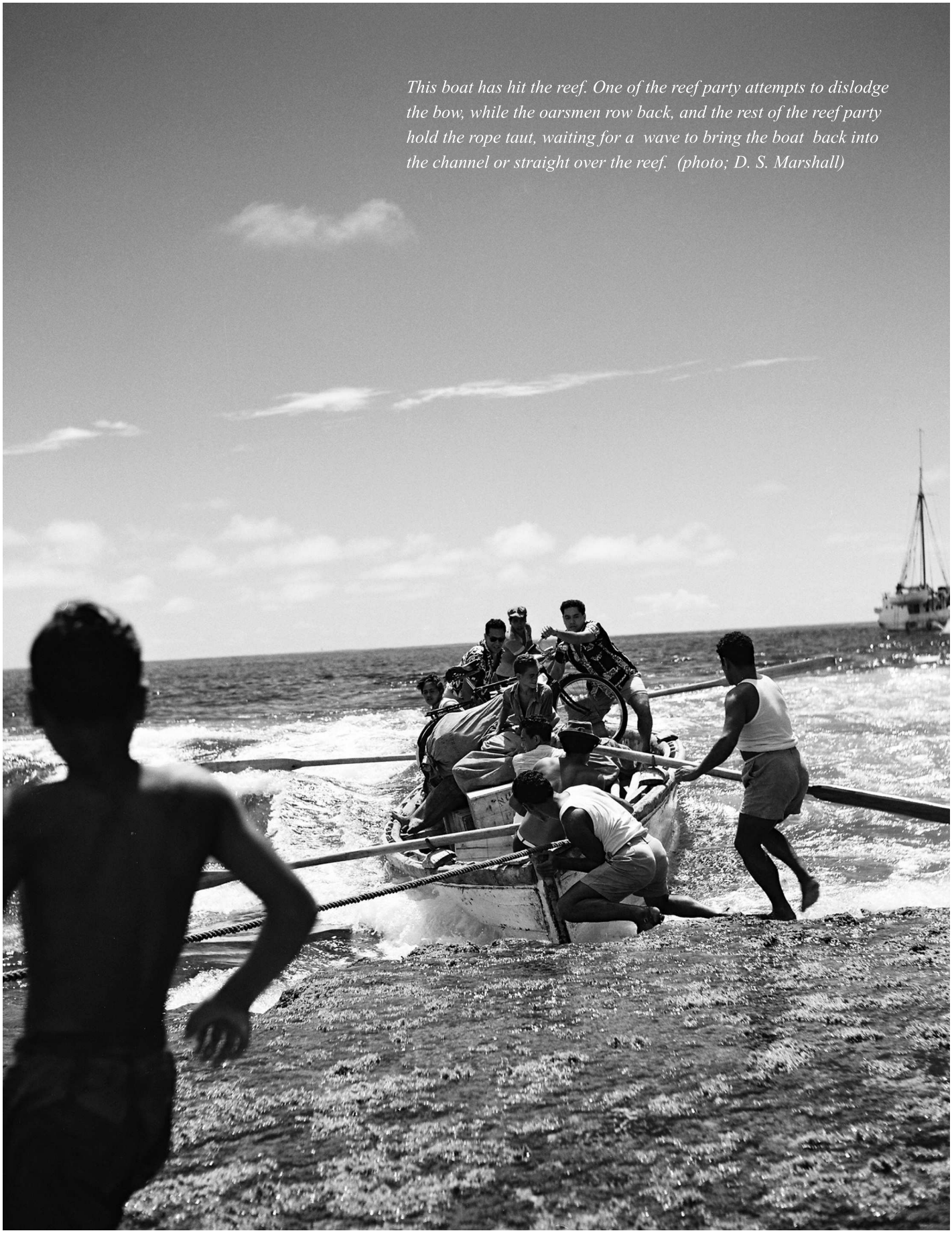
"'*Oea!* "Paddle!
'Oea!" Paddle!"

The tu'ava will also signal with his hands. When the boat gets close enough to shore, the rope will be thrown to the people on the reef. They try to pull the boat ashore before the arrival of the bigger incoming waves. It is the same when coming ashore on the reef. It is not a problem when the sea is calm.

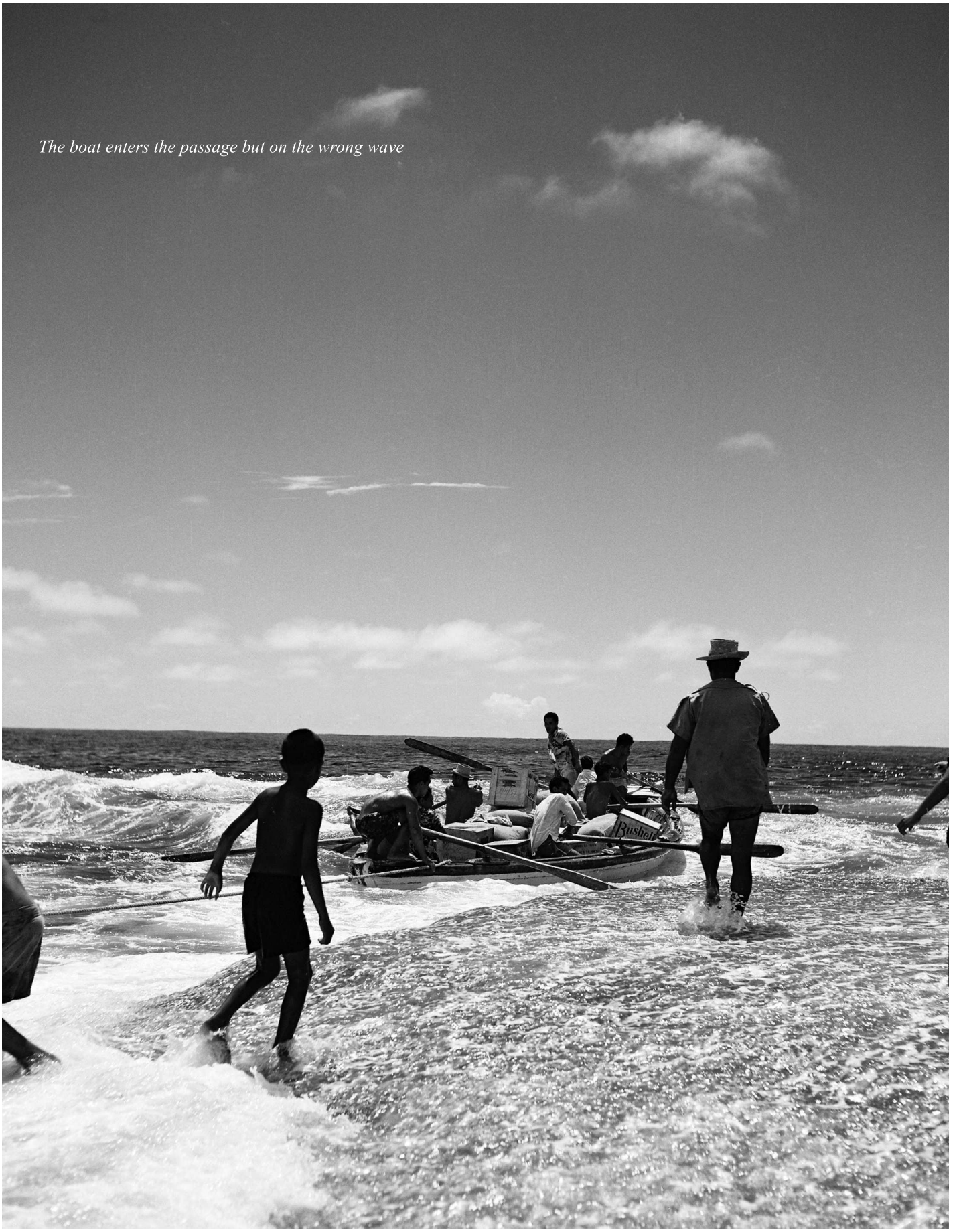
"A really tense moment comes when the boat comes up against the edge of the reef, and the rope is thrown out to help pull it in - much shouting and fast work. Note the anxiety on one father's face as he carries his tiny baby in his arms, with the boat pounding against the edge of the reef." (D. S. Marshall, Field Notes, 1958; 727)



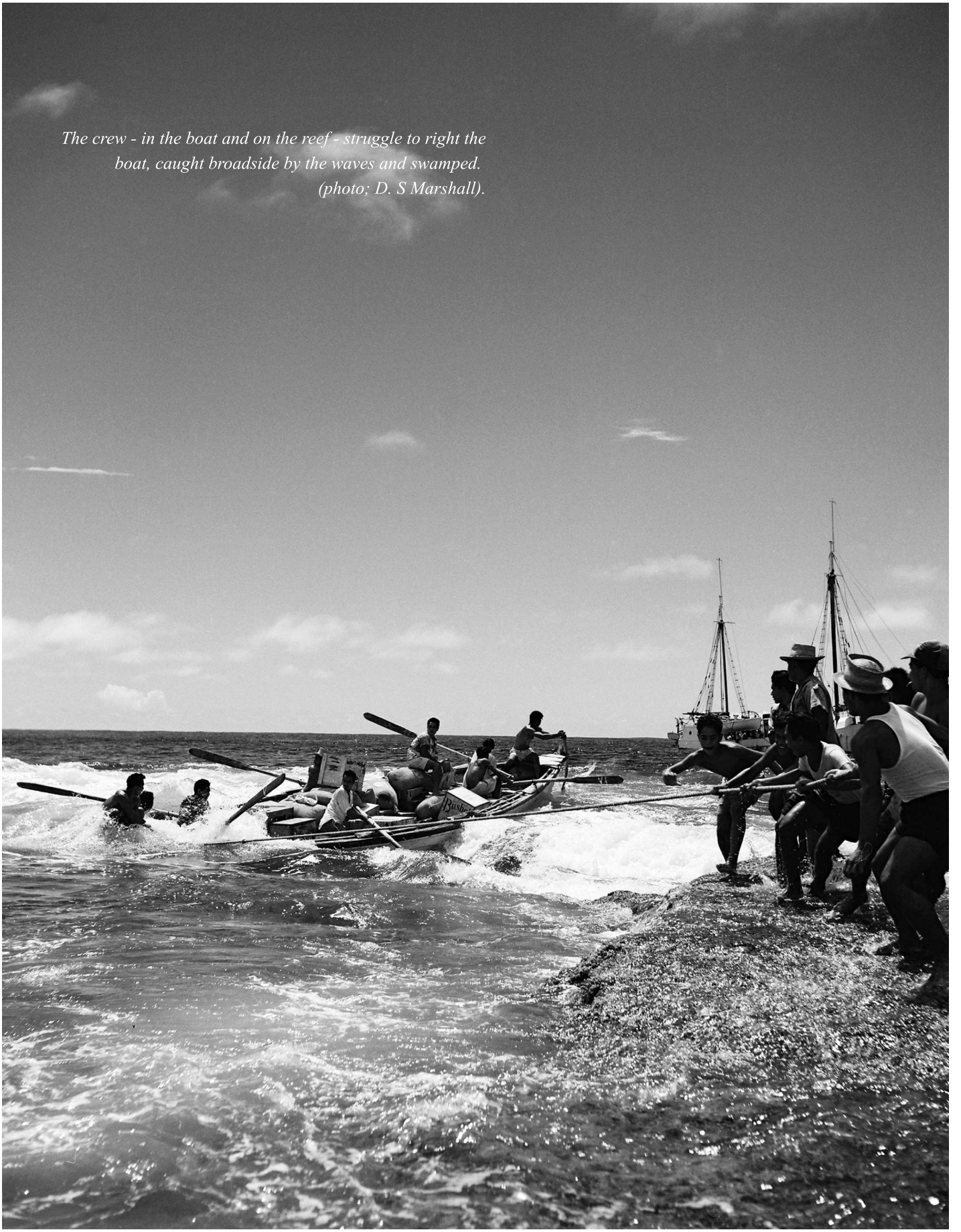
A rope is thrown to the tu'ava and reef party. Held fast, the rope allows the boat to hold its position while the oarsmen and steersman struggle to keep the bow forward. Once the boat enters the reef passage it relies entirely on the rope as the passage is generally too shallow for rowing. The rope is used on both inwards and outwards journeys. On outwards journeys, the rope is attached to the stern post and holds the boat steady until a suitable wave arrives (photo; D. S. Marshall).



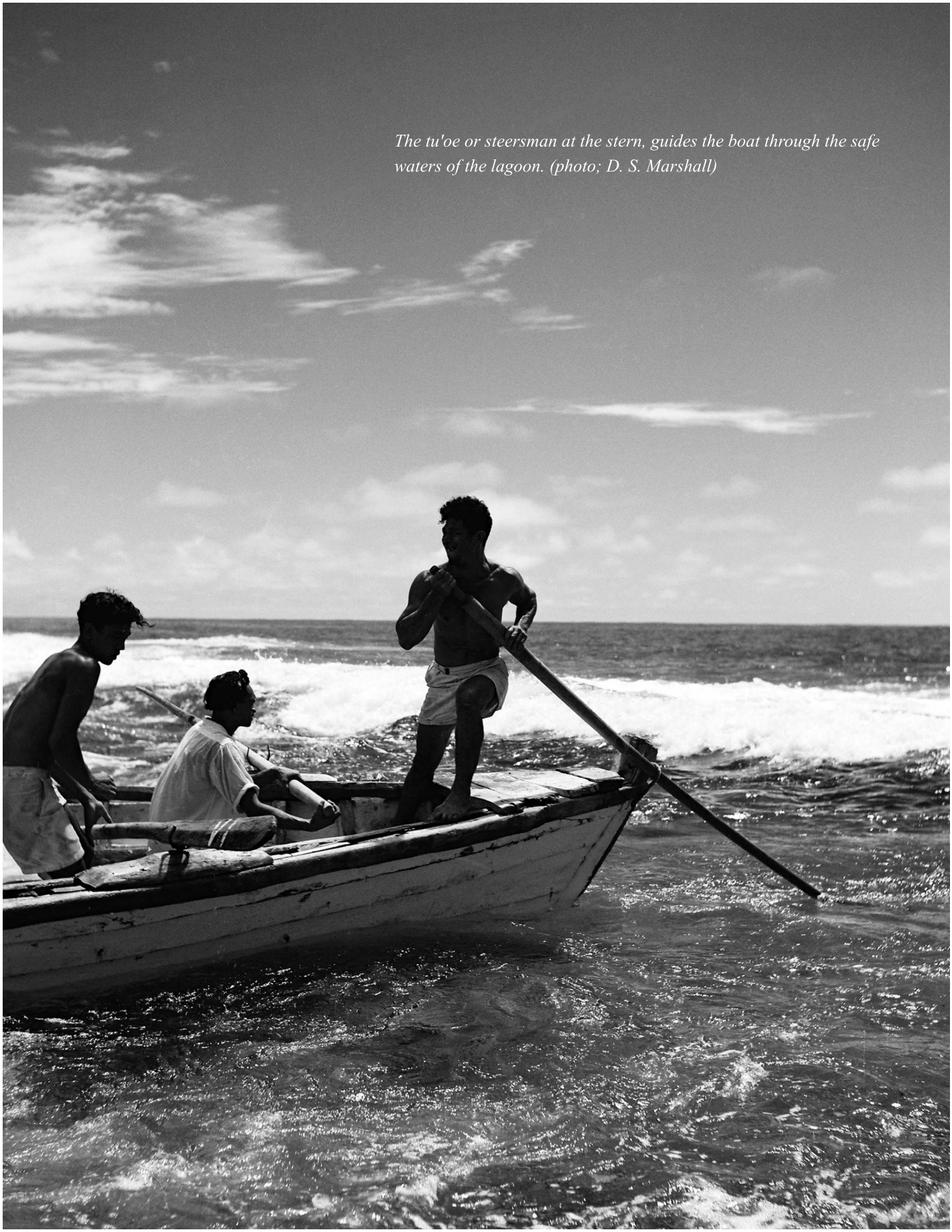
This boat has hit the reef. One of the reef party attempts to dislodge the bow, while the oarsmen row back, and the rest of the reef party hold the rope taut, waiting for a wave to bring the boat back into the channel or straight over the reef. (photo; D. S. Marshall)



The boat enters the passage but on the wrong wave



The crew - in the boat and on the reef - struggle to right the boat, caught broadside by the waves and swamped. (photo; D. S Marshall).



The tu'oe or steersman at the stern, guides the boat through the safe waters of the lagoon. (photo; D. S. Marshall)

Apai mai i te Toroka, Kereita

Ka kapiti ia e rua poti aiteite te ngangao no tetai Kamupani e tetai Kamupani. Ka pa'ata ia te nga poti, i reira ka tapekapeka ia te pa'ata i runga i nga poti e rua i te taura.

Me tukuna mai te toroka i runga i te pa'ata, ka na te tipoto o nga poti e rua. I reira ka natinati ia te toroka i runga i nga poti e rua. E rua rai tu'oe e te aronga 'oe i te tua i vao o nga poti.

I te tai kinokino e te tai meitaki, ka inangaro ia rai nga taura o mua o nga poti ia tiria i ko i te pupu tangata i runga i te akau no te tauturu i te 'uti atu i te poti i uta. Aiteite me uru na raro i te ava me kore na runga i te akau. Me tae i te pae pi'aki, ka pa'ata akaou ia mei runga i te poti i runga i te enua.

I tetai au taime, e 'ivi ia ana te ruru rakau e te taramu mei runga mai i te pa'i aere rava i roto i te tai. I reira ka akakau ua ia mai i uta na runga mai i te akau me kore na raro mai i te ava, mei te mea e e mate a raro i te ava.

Are oki e tamanamanata ia ana e te au 'ona toa mei te mea e ka ma'u'u te reira tu kāko e pera oki ta te Kavamani kako. E pututu oki te taime e na te mapu e te mapu tamariki e akakau mai teia au kako nei i uta. E 'anga'anga mataora oki {te 'anga'anga takatai} na te mapu tane (tamariki tamaroa).

Bringing in Trucks and Tractors

To bring ashore large cargos, such as tractors or trucks, two cargo boats of the same size belonging to two companies are lined up side by side. [1] A platform is then erected on top of the two boats and secured with ropes.

The truck is loaded onto the platform, on the short side of the two boats. The truck is then secured with ropes. There are now two tu'oe and crews, located on the outside of the two boats, to bring the cargo to shore.

In rough and calm weather, the rope is thrown to the people on the reef to help haul the boat to shore. When the two canoes reached the pi'aki [the undercut makatea rock at the beach edge], ramps are erected to offload the cargo from the boat.

Sometimes, if the cargo is timber or drums of fuel, they are lowered into the sea, in calm weather, and floated to shore. There is rarely any objection from the owners of the cargo and the young men enjoy pushing the floating cargo from the ship to the landing.

[1] In the case of lashing together two canoes, the outrigger of the right hand canoe is unlashed from its normal position on the left and relashed on the right hand side of the vaka. A platform is then constructed to hold the two canoes together.

1940 - A Bedford truck being lightered over the reef on two cargo canoes tied together, with outriggers on port and starboard. The wheels of the truck were loaded into the hulls of each canoe leaving little room for oarsman. Instead ropes were used to haul the vaka over the reef (photos - Hickling/Cooper Collection).

This reef crossing was undertaken at Vaikare or 'Kaumata harbour'. The men standing on the reef indicate the absence of a formal reef passage.

Over the reef! – landing a motor truck on Mangaia (1940)

"The exacting feat of getting their outrigger canoes over the foaming reefs of Mangaia has been the daily task of the natives of that island for long generations. Mangaia has no harbour or anchorages. The outer edge of the reef falls away into deep water. Crossing the reef is at all times a tricky business, but in bad weather the Mangaians perform miracles of seamanship.

Their greatest feat is that of landing a modern motor truck. To date, seven vehicles have been brought ashore without mishap.

Two canoes which are hollowed out from single tree-trunks, are lashed parallel, spaced with timbers, so that the wheels of the vehicle will settle snugly into the hulls, and taken out to the ship. Now comes the nerve-racking business of lowering the truck into the canoes from the deck of a pitching and swaying schooner.

We hold our breath as it dangles precariously from the cargo hoist, swinging with the motion of the ship and rising and falling in alternative rushes. Time and again the hovering truck is almost settled into the canoes, but before it can be released it is jerked into the air, and the canoes go sheering off.

Eventually it is settled in the canoes and the tackle cleared. The strange and valuable cargo is now paddled over the ocean swells to the reef, where comes the difficult task of getting it "over the top." The craft is halted just outside the breaking surf, one moment lifted level with the reef, the next sinking into the trough, with the jagged coral looming in a formidable barrier.

The art of landing on the reef is to choose the "right wave" to lift the craft above the level of the coral and sweep it over into the quiet shallows inside, aided by the strenuous efforts of the paddlers and the skillful handling of the Rangatira at the steering oar.

A misjudgement would crash the canoes onto the sloping outer edge of the reef, at the mercy of the next curling sea.

The Mangaians have become accustomed to that white-man's miracle, the dear old "T" Ford; but the arrival of an up to date Bedford truck, with its shining cellulose and chromium plating, luxurious upholstery and dazzling instrument panel with many 'clocks' was a new sensation for them.

For several days, while a garage was being constructed for this purring god of power, four elders of the community guarded it day and night, their women folk bringing them food until the day of the christening celebrations. This event called for something special in the way of a feast. Eighty pigs were roasted in the umus; and these, together with vast quantities of fowl and taro, were heaped in long rows on the grass in front of the cargo-shed which served as a grandstand.

The great moment arrives. Cheers rent the air as the truck, so festooned with flowers and streamers that the driver had difficulty in seeing his course, moved slowly up the land of plenty. Midway it halted. Hatless, the orometua, or native pastor of

the L. M. S. church, approached, in his hand an opened drinking-nut. Prayers were offered in thanksgiving for the safe arrival of the truck and petitions for its future welfare.

The crowd watched silently as the orometua raised the coconut. He hesitated, then tipped the nut carefully. Just a few drops – that was all. It would be sacrilege to pour coconut water all over that beautiful radiator! So he poured the rest on the ground. More cheers.

Now the guitars and ukuleles come to the fore. Brown fingers caress the strings. Eyes begin to sparkle as the tempo increases to the blood-stirring throb of a lively Tahitian hula. A giggling girl slips into the circle and starts to sway. It spreads like a prairie fire. Grandmas forget the aches in their ancient bones; tiny toddlers shimmy and wiggle. Nothing can stop them, now the hula is on!

While the crowd sways and surges, the king and queen of Mangaia, together with members of the Island Council, are taken for a drive through the settlement.

Afterwards, the public got their chance; three-pence a head for a one mile trip. For hours, the garlanded Bedford shuttled back and forth. Three excursions were made right round the island. At various points the truck was halted while presents were made to it. A few yards of gaudy dress-stuff; a bunch of bananas; a live fowl; at one place a huge protesting porker, which was got aboard with some difficulty and much noise. When the vehicle arrived back at the main settlement, it resembled a travelling Persian market…

Mangaia's main road is a double wheel-track, canopied with coconut trees which encircles the island and is used to transport oranges from the outer villages to the main settlement at Oneroa. Their life's work done, the 'T' Fords now rest by the roadside rusty and forlorn, watching their task being carried on by a number of modern motor vehicles. – William S. Bond

(Pacific Islands Monthly, 14 December, 1940)

1940 - the Government's new Bedford truck, delivered over the reef, is festooned with flowers and streamers and celebrated with feasting. Roast pigs and baskets of food in foreground (photo; William S.Bond).

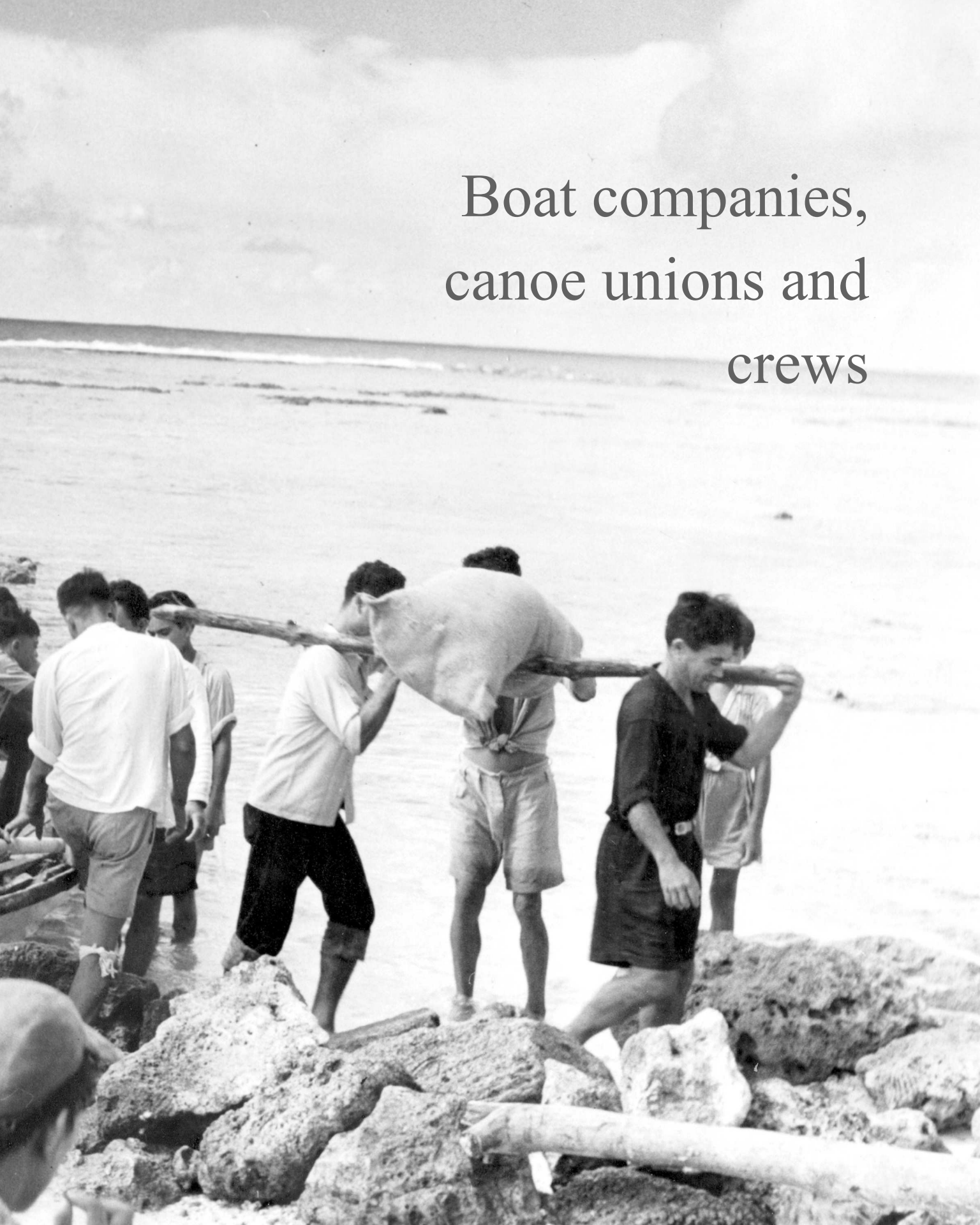
If the Oneroa passage was unworkable, old Ford cars, horses and human power were used to carry cargo to Atuaokoro.

Atuaokoro Landing, 1930

"Oneroa is the nearest landing place from Tamarua, Oneroa being the main cargo working place. When this landing is rough, there is another landing some 2 miles North of Oneroa at Atuakoro and when both of these are unworkable there is a further landing at Ivirua (Karanganui). Thus, on the day of our arrival, all the fruit had been prepared for shipment at Oneroa. This entails a tremendous work with the poor transport available, more particularly on account of the most difficult access to the plantation areas due to the raised *makatea* all around the Island, over which it is most difficult, with the materials available, to form roads. On the day of our arrival Oneroa had become unworkable owing to a slight swell. It was also raining heavily. So the *Waipahi* decided to attempt to work Atuakoro. This meant that all the fruit lying at Oneroa had by some means to be rushed to Atuakoro and no better demonstration of the difficulties of these people could have been given us. There are three very decrepid Ford trucks on the Island and these were working full time. The Natives turned to and with every available conveyance were assisting. Small children lead weedy horses packed with orange cases, on saddles made of banana leaves. Old hand carts and all kinds of broken down carts were brought into requisition and men, women and children formed a procession along the beach road like beasts of burden. One old man, with his wife and several children were supplying, in the absence of a horse, the motive power for his old buggy, piled high with cases, and bumped over the rough roads through the pouring rain to the landing. Darkness came on before the job was half done, but the vessel waited till midnight. Loading operations continued through the reef, the cargo having first to be carried for some 100 yards over sharp coral before being loaded into the canoes. A considerable quantity of cargo both inward and outward was lost. At midnight the ship sailed, with 400 cases of fruit gathered with such sweat and toil, still left on the beach, a dead loss to the growers. After all the work of picking, packing, handling into the port, recartage to the loading port, the price being offered for the fruit was 2/6 a case. This was only the second opportunity this year for the natives to ship fruit, and probably the last. Copra is their only other source of revenue, and the price now being paid into the world's market makes it practically an unpayable proposition. It can be seen therefore that the native people of Mangaia are left practically to their own resources, and this no doubt accounts for the reason why villages once heavily populated are now deserted, the men having migrated to Rarotonga or gone elsewhere where making a living is easier."

S. J. Smith to Sir Apirana Ngata, Minister for the Cook Islands, Rarotonga 21 June, 1930 Cook Islands Archives

Boat companies, canoe unions and crews



Mangaia's boat companies

Te Rangi Hiroa, who undertook field work on Mangaia in 1930, writes that "Large canoes of the same build as the [Mangaian] fishing canoes are made and owned by families or groups acting as a company. These are used for transporting cargo to and from the trading schooners and steamers which call at the island. The people prefer their own form of vessel to the European whaleboats used elsewhere. The company ownership results from the expense of obtaining suitable hull timber from Rarotonga. The canoes also require a crew. The company shares the expenses, which are beyond the means of a single person, and shares the profits of working the freight" (Hiroa, 1934; 144).

The anthropologist Donald S. Marshall recorded the following boat companies and private boats on his visit to Mangaia in the mid 1950s. Puna boat companies ('kamupani') were collaboratively owned by all members of the puna who contributed to the costs of the boat's construction, its repairs and maintenance, and who crewed or supported the boat's operation on boat days.

Veitātei 1 puna boat company with 1 boat only.

Kei'ā 1 puna boat company with 2 working boats .

Tava'enga 1 puna boat company with 2 boats, plus 1 boat previously owned by Ngatupuna Matepi and Ngavi'i, now belonging to the puna company.

1 private boat under the leadership of Rere Takapi, son of Tangi Rere, operated by Vaevae Rani.

Tamarua 1 puna boat company with 2 boats and 1 private boat belonging to Rima Rimataiē Tangimetua and 2 boats belonging to Āmataiti Pautea'o. ("Tamarua rowed their boat all the way around in an open sea yesterday to bring it here (Oneroa)." (Marshall, 1953-4; 353). The boats were kept either at the Oneroa field or in an 'are vaka on the seaward of the first road leading up to Tamarua village.

Karanga 1 puna boat company with 2 boats.

Ivirua There was no puna company, but each of the 3 sub-villages had their own arrangements - Matiekura had 1 boat company with 1 boat, Kirikiri had 1 boat company with 1 boat; 'Arata'a was split in membership and worked both boats.

This gave a total of 15 boats of which 4 were in private hands - Vaevae Rani (Tava'enga), Rima Rimataiē Tangimetua (Tamarua).

According to Marshall, "Ma'arona says Ivirua doesn't have a boat company because the Kāvana and Rangatira are "not pulling the people together" – the Kāvana is the head [of the village] and he divides his time between the two companies – favouring neither one nor the other – he works both" (1958;1046).

In the case of village or puna boat companies, the whole puna might be shareholders. The Secretary/ Treasurer of the kamupani was responsible for collecting landing fees from consignees such as Cook Islands Trading Company or the Cook

The shareholders of a kaumpani haul their boat back to its boat shed (photo - D. S. Marshall).

Islands Administration. Each shareholder received a share of the fees which were often accumulated to provide a worthwhile payment. In addition to their share payments, shareholders who worked the boats as crew or wharf gang or support staff, received an additional payment for their labour.

"Rimataiē of Tamarua and the Ngavi'i family of Tava'enga are from Ma'uke, hence they held themselves apart from the puna boat companies. – this stemmed from original family boat companies, not from any group schism (Ngavi'i's boat is now back in puna)." (Marshall, 1958; 1047-8).

"Vaevae Rani's boat company (new) was started by Tara [Tipoki], the brother of Dick Brown's mother – [Rakiki Tipoki] and the husband of Rimaongo Solomona - he started this in order to make more money than he would get by being a puna member. Vaevae keeps this boat separate so that he can make more money also. The boat company of Tara and another old man were non-Ekelesia, and had a beer group – they got Dick Brown to provide a papa'a boat and the drinking group ran the boat. Vavevae joined later – he was a member of the drinking group – Tara was the council member who forced the Tava'enga [orange] gas[sing] room, and who pushed Ryan's road through over the marae and then died." (Marshall, 1958; 1047-8).

Vaevae Rani was highly regarded for his knowledge of the seas (kaingaru) and in rough weather often acted as a 'harbour master' for all boats, directing captains when to enter the reef passage.

Distribution of moni taritari

E tua pukuruvaa-nui. When the food is distributed everyone gets a share.

1968 - "Each district owns a long boat which is stored at Avarua landing. On a boat day, the district is required by Island by-law to provide a boat crew and a wharf gang, the former to take the boat out through the reef, to load the boat and return to the wharf, where the wharf gang are required to unload the boat and carry the cargo beyond the reach of the waves which lap over the concrete landing apron. The captain of each boat calculates his day's trips and is paid accordingly by the administration and local trading stores. The crew each receives a share."

(Bryant Allen, *The Development of Commercial Agriculture on Mangaia; Social and Economic Change in a Polynesian Community*, Geography Department, Massey University, 1969).

The division of food shares at the Veitātei takurua mata'iti, mid 1950s - Ma'arona kavana presiding. (photo; D. S. Marshall)

Cargo Boat Officials in the 1950s

Ma'ārona kāvana – Boat Day Leader
Teiti John - Union Steamship Company Clerk, (boat days), government officer, (ex Pastor)

Puna Tava'enga has 1 puna company with 2 puna boats
Pu o te vaka -Tomokino Solomona (in charge of the 2 main Tava'enga puna boats).
Captains - Ngā Kāvea, (1 boat), Tā'okia Tua, (1 boat) Māi Tua, (1 boat) subsequently Tearii Raevaru
Treasurer (2 boats) - Tati'a Miria

Rere Takapi's family boat (private) – successor to Dick Brown's boat company, subsequently owned by Vavevae Rani and named 'Tio pakete'
Pu o te vaka - Vaevae Rani "knows the waves."
Captain - Kau Rere, Ngatokorua Rere,Vaevae Rani
Treasurer - Tangi Tara

Puna Keiā has 1 puna company with 2 puna boats, third is old, not used
Pu o te vaka - Joe Kī
Captains - Kirimāniania (1 boat), Matamaki Paku (1 boat)
Treasurer – John Herman

Puna Veitātei has 1 puna company with 2 puna boats
Pu o te vaka - Ave Iva'iti
Captain - 'Area'iiti 'Area'i (1 boat) Mare'angare'u Tai'ia (1 boat) "knows the waves" - subsequently Tuaine Ngere
Treasurer, Veitatei Boat Co. - Rā 'Area'i

Puna Tamarua has 1 puna company with 2 puna boats
Pu o te vaka - Tangitamā'ine Teaurima Ngaiaere
Captains – Parima Rima (1 boat - Te Pauru); Tiōni Tūtū Tini (1 boat - Te Pauru)
Clerk, village boat company - Taureka Teka'a
Treasurer - Tangitamā'ine Teaurima Ngaiaere

Private Tamarua boat
Pu o te vaka - Rima Rimataiē Tangimetua
Captain and clerk - Tāmuera 'Aerepō
Others - Rima Parima, Metuakore, Tangikau

Āmataiti Boat Company - two boats (broke away from puna over disagreement over money)
Pu o te vaka - Āmataiti Pautea'o
Captain - Tiōni
Treasurer - Tangitamā'ine Teaurima Ngaiaere

Puna Karanga has 1 puna company and 2 boats
Pu o te vaka - 'Akaiti Ponga
Captains - 'Aretupe (1 boat), Moeroa (1 boat) "knows the waves", subsequently Atetu Atetu, Ngai Pareiti and Tai.
Treasurer - Tere Vaeau

Puna Ivirua has 3 sub-village companies and 3 boats

Kirikiri boat company - has 1 boat
Pu o te vaka - Tangi Neke 'aere
Captain and Treasurer – Va'i Puroku
Secretary – Nui Peraua

Matiekura Boat Company - has 2 boats
Pu o te vaka - Tua'ine Rātara
Captain and Treasurer - Tārai Tārai

Te 'Arata'a Boat Company - work either of the above sub-village boats.

On boat day, the operation of the canoes and boats rested with the puna or private companies but it remained the ariki's responsibilty, and that of the boat day leader, to ensure that everyone worked well together, that there was no fighting over cargo and that the island acquitted itself well in the eyes of the captain of the visiting vessel.

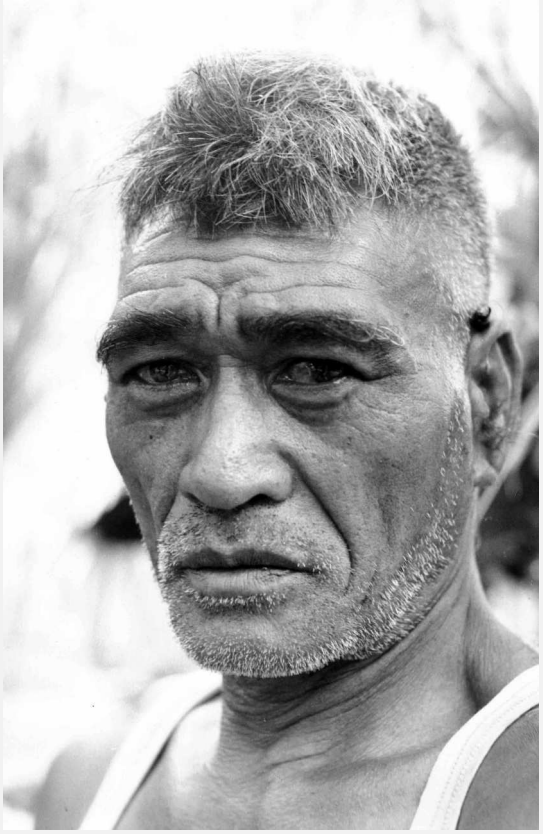
No boat would go to sea without a tu'ava standing on the reef, judging the waves and signalling which wave to catch on departure and return. This was particularly so on a rough sea. The tu'ava was generally a retired captain, with years of experience of working the passage. His decision was never challenged.

As well as the boat's crews, each kamupani had its own crew of wharf labourers, a tally man who recorded all incoming and outgoing cargo and passengers, and a group of mamas preparing the lunch and children helping out as runners etc.

Kaingaru
The men who knew the waves and could take a boat out when others could not, included - Teinangaro - Kei'ā ; Mare'angareu - Veitātei; Ngakirimāniania - Kei'ā; Moeroa - Ivirua; John Te Ana'une - Tamarua; Vaevae Rani - Tava'enga.

Boat Day Leaders - Tangata 'Aka'aere i te ra Pa'i
Ma'arona (Veitātei); 'Akaiti Ponga (Karanga); Tomokino (Tava'enga)

Canoe Ta'unga
Tamarua - Karere; Rimataiē Tangimetua
Ivirua/Karanga - Aka'iti, Marura'i; Aretupe, Ngaipareiti, Tarai, Iroiro, Teremoana, Taengamoana, Po'aiti', Rima'ati, Tua'ine.



(Above) Ma'ārona kāvana – Boat Day Leader (photo: D.S. Marshall); (Below) Vaevae Rani - owner of the boat Tio Pakete and an experienced kaingaru - 'he knew the waves.' (photo; Christian Clerk)

Organization of the boat crews

In 1890, it was reported that "$ [Chile] 3 per ton was levied on all produce or goods taken there [Mangaia], as a charge for shipping or landing them through the surf...The authorities perform the service, which is thus a [Mangaian] Government monopoly." Following annexation in 1901, the NZ administration attempted to break this monopoly.

In response, Mangaian canoe crews organized a 'union' of boatmen with a standard lightering fee. And whenever the price of goods in trading stores increased, the Aronga Mana responded by increasing the canoe-mens' tariffs. (In 1908 for example, this went from 6 shillings per ton to £1 per ton; at Rarotonga, the U.S.S.Co. landed produce at 1 shilling a ton). "Any canoe-man charging less than the tariff, made law by the Aronga Mana, to be fined £1.0.0 for each offence. A native policeman to be appointed to collect the fines." The new tariffs were publicly announced by a messenger beating a pate as he moved from village to village. (Source "A Memorial re conveying merchandise and produce to and from the steamer at Mangaia," Resident Agent Large to Resident Commissioner Gudgeon, 15 October, 1908 Cook Islands Archives).

Charges increased even more significantly when Mangaian men returned from the First World War where their cargo handling skills had been regarded as vastly superior to those of their European and local counterparts. According to Weddell "their speed and prowess in running surf boats from supply ships in Egypt led to threats of strike action by local labourers put out of work. [1]

Visitors who crossed the Mangaian reef with the boatmen understood the risks they took, and marvelled at their boat-handling skills but were reluctant to see the canoe-men suitably remunerated, as these newspapers reports indicate;

1908

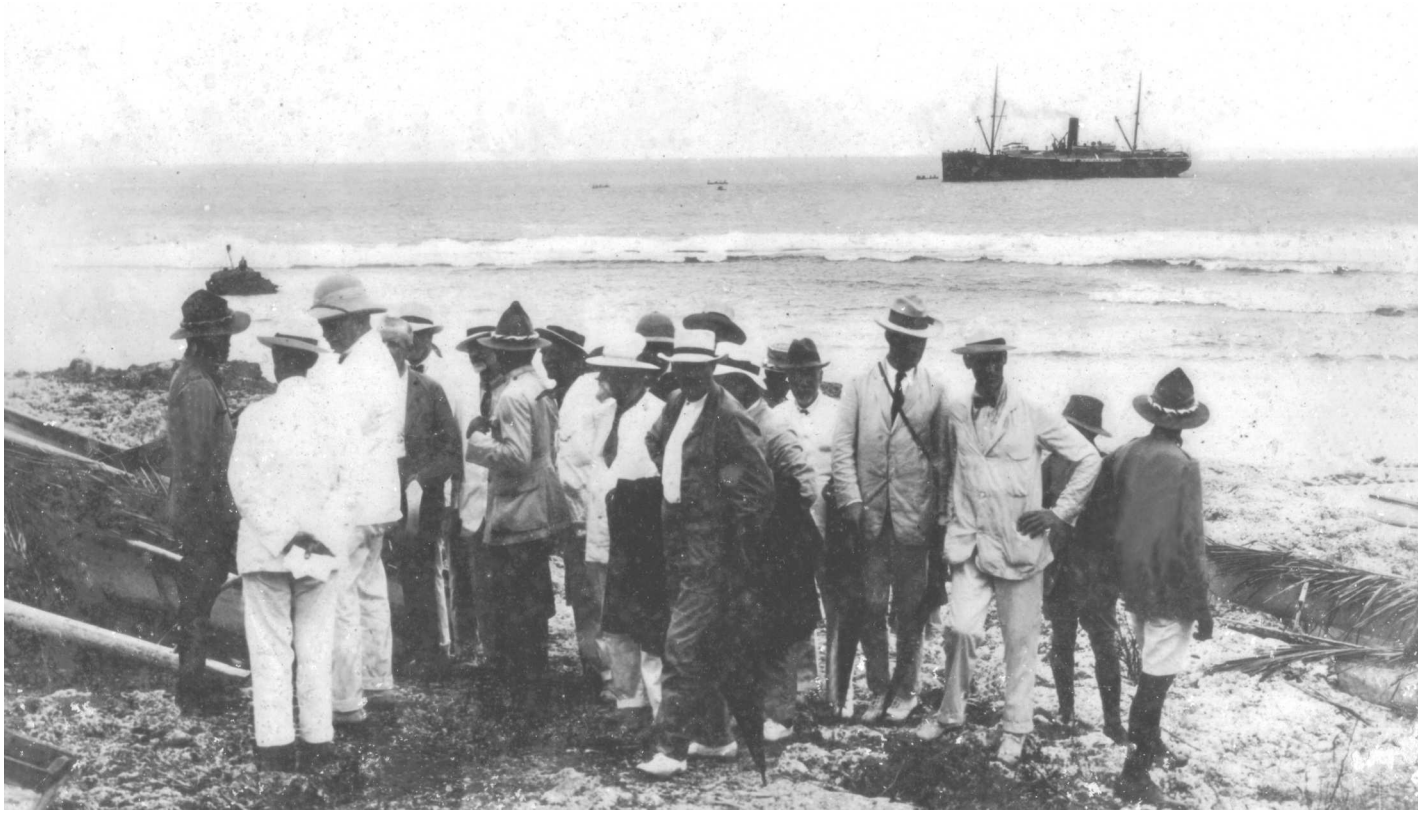
"A number of the local canoe men and the Aronga Mana of Oneroa, have formed a union for the purpose of doubling the charge (already a high one) for landing or shipping cargo for the European trade. However, the leading chief of this island Daniel Tangitoru [2], who has always been a great friend of the Europeans, succeeded in getting a number of canoes, and a party of men, by which he was enabled to do all the canoeing at the old rate, to the great disgust of the union, who thought they were going to have things all their own way.

They consoled themselves, in a measure, by levying a few fines—in their usual partial manner — on some of their party, who broke their so-called agreement and canoed cargo at the old rate. The matter was brought before the local Court, but has not yet been decided, pending a reference to the High Court on one or two points. The Aronga Mana thought they had established a law binding on everyone, at any rate they sent a crier round proclaiming it as such, but they now find out their mistake. The traders are jubiliant at escaping the impost, and no doubt this movement to extort money will soon fizzle out." *(New Zealand Herald, 21 December 1908)*

[1] Howard Weddell, 2015, *Soldiers from the Pacific*, Defence of New Zealand Study Group, Wellington

[2] Tangitoru was not, as reported by the Herald 'the leading chief' of Mangaia. He was married to the sister of Trego ariki, held no formal title but styled himself as a chief to European visitors.

(Above) Cook Islands soldiers unloading stores from supply ships off the coast of Palestine, 1917. It was said that "thirty islanders did the work of 170 British soldiers." (Photo: PA1-q-605-06-4 Alexander Turnbull Library, New Zealand); (below) Mangaian returned soldiers (in lemon squeeze hats) meet Sir James Allen and the 1920 Parliamentary delegation from Wellington. The steamship 'Mokoia' is standing off shore.



1920

Mangaia. —"As matters are at present, traders are completely in the hands of the Natives, who raise their prices at a moment's notice. The charges per ton for loading and unloading vessels have gone up enormously during the past few years. The present price for bringing goods ashore from vessels at Mangaia is £3 per ton, and, according to the evidence adduced, certain traders have got notice that in future it will be raised to £5 per ton, a price out of all proportion to the services rendered."
(Commission to Inquire into…the Conditions of Trade between New Zealand and Fiji, Tonga, Western Samoa, and Cook Islands, New Zealand, 1920).

1920

"The natives who raft supplies ashore and take copra off to the ships are making a good thing out of it. They charge £3 10s a ton and as they have a complete monopoly, with no possibility of competition, the charge must be paid. But they may kill the goose that lays the golden egg. They threaten to raise their rate to £5 a ton. If they do they may kill the island's export trade or so reduce the price of copra ashore that the rest of the native population will be seriously affected. But their present charge and the rate they propose to levy indicateth that if there is exploitation going on in the islands all of it cannot he laid at the door of the European." *(A. E. Clarke, Evening Star, 13 April 1920).*

Trading companies, while complaining about the canoemen's union, were operating a price-fixing ring, as outlined in the following report -

1920

"A combination of four or five traders has for a long time past been strong enough every season to fix the price the Natives must accept for their fruit. The Natives complain that the prices fixed by these organizations have been unreasonably low, and that for a time last season, for example, the fruit growers had to accept 1 shilling a case.

Hitherto, if the Natives objected, the traders have been able to reduce them to subjection by cutting off the supply of fruit-cases, copra-bags, &c.; and they have always held a stronger card in a practical monopoly of steamer and schooner space. This feeling of resentment against the operations of these rings has been stronger since the return of the soldiers, and it reached a climax this season, which began in March [with the riots against traders in Rarotonga by returning soldiers].

The fruit ring fixed the price at 2s. 6d. per case. The Native fruit growers have formed a ring of their own, and they declined to sell under 5s. per case. Neither party would alter its price. The Natives then decided to export their fruit themselves, but the traders met that decision by cutting off the supply of fruit-cases and by asserting a claim, based upon long usage, to the shipping-space.

The Administration then assisted the local growers to obtain a supply of cases and a share of the shipping-space. They were thus enabled to ship their own fruit directly to the agents selected by themselves. So far this new departure has had very satisfactory results for the Natives, for the fruit for which the buyers tried to make them take 2s. 6d. a case they cleared 10s. a case." (*Report of thec Resident Commissioner of the Cook Islands,, 1919).*

MANGAIA ORDINANCE 1922 No. 4.

AN ORDINANCE to control the Boating of Cargo, Fruit, Produce, &c., to and from Vessels at the Island of Mangaia.

BE IT ENACTED by the Island Council of Mangaia as follows :—

1. The Short Title of this Ordinance shall be the Mangaia Ordinance 1922 No. 4, and it shall come into force on the day it is assented to by the Resident Commissioner.

2. A register of all owners of canoes or boats that ply for hire shall be kept by the Resident Agent at his office at Mangaia.

3. If any owner or any member of the crew of a canoe or boat plying for hire shall refuse to take into such canoe or boat any cargo as may be tendered from the vessel's slings, or refuse to take in any produce or cargo from the shore to a vessel, or if any one shall wilfully delay or hinder the loading or discharging of any vessel, he shall be guilty of an offence.

4. The Island Council of Mangaia shall be and is hereby authorized to fix the boating tariff for the conveyance of cargo, fruit, produce, &c., and passengers to and from vessels, and have fixed the following tariff for the time being :—

Copra or coffee (large bags or sacks)	2s. 3d. each.
Copra or coffee (small bags or sacks)	1s. each.
Coconuts, in bags or sacks	6d. each.
Cargo (inward)	4s. per hundredweight.
Fruit or produce to a vessel	3d. per case.
Passengers to or from a vessel	1s. each.

Goods, cargo, or live-stock not herein provided for, the charge shall be left to the discretion of the Resident Agent.

5. The Resident Agent shall have power and is hereby authorized to increase the boating tariff in his discretion if he considers the weather rough or if any boating is required to be done after dark.

If any dispute shall arise in regard to boating charges it shall be settled by the Resident Agent.

6. All boating shall be under the control of the Resident Agent or of any Rangatira Angaanga whomsoever he shall appoint, and such Rangatira Angaanga shall be paid from the funds of the Island Council such remuneration as the Resident Agent considers necessary. All orders of the Resident Agent or Rangatira Angaanga in respect to boating must be obeyed, and any person disobeying such orders shall be guilty of an offence.

7. The owner or any member of the crew of a canoe or boat who shall discontinue taking cargo or produce to or from a vessel until the whole of such cargo or produce offering has been conveyed to or from a vessel, or shall refuse to take off any passengers to a vessel, shall be guilty of an offence.

8. Any owner or member of the crew of any canoe or boat who shall charge more than is allowed by the boating tariff, or any person who shall pay or offer to pay any owner or member of the crew of any canoe or boat a sum greater than the boating tariff, shall be guilty of an offence.

9. No preference will be allowed in boating cargo, fruit, produce, passengers, &c., to a vessel. Any cargo, fruit, produce, or passengers, &c., which the Resident Agent or Rangatira Angaanga shall direct to be taken into a canoe or boat to be boated off to a vessel shall be boated off. Any owner or member of the crew of a canoe or boat who refuses so to do shall be guilty of an offence.

10. No passengers or luggage shall be allowed to be taken off to a vessel until the whole of the cargo, fruit, produce, &c., has been conveyed to a vessel. The Resident Agent, however, shall have power to authorize the taking-off of passengers or their luggage at any time if he considers it desirable.

11. The penalty for a breach of this Ordinance shall be a sum not exceeding five pounds.

12. Any penalty imposed by this Ordinance shall be recovered in a summary way before any Court constituted under the Cook Islands Act, 1915, and when recovered shall be paid into the Cook Islands Treasury at Rarotonga.

Passed by the Island Council of Mangaia, this first day of August, one thousand nine hundred and twenty-two.

THOS. DUNCAN,
President of the Island Council.

Assented to on behalf of His Excellency the Governor-General of New Zealand, this first day of September, one thousand nine hundred and twenty-two.

J. GEORGE L. HEWITT,
Resident Commissioner.

By Authority: W. A. G. SKINNER, Government Printer, Wellington.—1922.
[100/10/11—15487

In 1920, in response to the growing strength of the union of Mangaian canoemen, the New Zealand Administration passed the ordinance (reproduced above), regulating the tariffs charged for carrying cargo and people to and from vessels.

"There are no harbours on the island and the boat passages through the reef are far from good. At the main settlement, where most of the produce is shipped, the passage is often impossible, and canoes have at such times to go over the reef."
Pacific Islands Year Book, 1944

Mangaian reef passages

Mangaia's reef passages

A large number of natural passages penetrate the reef surrounding Mangaia - the larger of which include Marotaka and Avarua on the west coast, Atuaokoro and Te Kumukumu on the north coast, and Karanganui on the east coast. But as the geologist Patrick Marshall wrote in 1927 - "In no place is the fringing reef penetrated by a channel from the outer margin to the strand [beach], all the crevices which extend far into it being narrow, although at Oneroa [Marotaka] one of the crevices, though shallow, has been artificially enlarged" (1927; 12-13).

As a consequence, reaching the sea in a canoe, required considered manual effort. In mid 19th century Mangaia, the resident missionary Rev. William Wyatt Gill observed a small craft being launched over the reef - "Two natural ropes of immense length, composed of strong vines knotted together, were employed to drag her over the reef; one was pulled by women, the other by men. The islanders accompanied the vessel out to sea until she was clear of the reef, swimming with their feet and pulling the ropes with their hands" (Rev William Wyatt Gill, Bradford Observer, England 02 October, 1875).

Reef passages were important as points of entry and departure. New arrivals to the island often settled close to their point of entry - for example, the Ovarei channel in Karanga is where Tama-keu, an ancestor of Manaune, arrived (Hiroa, 1934; 76). Karanga subsequently became a Ngati Manaune stronghold. Similarly, the Marotaka passage was the first point of entry of the Christian missionaries (in 1823) and lies adjacent to where they finally established their Christian village. And, as points of entry, reef passages were also fiercely defended as in the story of Moke's defence of the Avarua passage against invading Rarotongans (Gill, 1894; 32-38).

The opening up of the island's larger channels signalled the opening up of Mangaia to the world, initially through trade. Over the past century, as trading relations with the outside world developed, efforts were made to increase the number of workable passages by widening and deepening the larger or more sheltered natural channels, extending them to the beach and, in the case of Avarua harbour, providing a silling pond and dock.

In 1930 Hiroa observed how "the lack of suitable natural passages has affected the method of launching and beaching canoes" and their design (1934;5). Subsequent improvements to the island's main passages have allowed low capacity cargo canoes to give way to larger, wider and more capacious cargo boats in the early 1940s, then to motorized barges since the mid 1970s.

1851

"The [Mangaia] coast is not defended as usual by a reef; the sea beats directly upon its flanks; and a mass of coral attached to it, but not extending more than 15 or 20 yards out, serves as a breakwater and shelter to it. There is not any opening; it consequently has neither port nor road. The sea around it is of great depth, and without danger. The only communication with the land is by means of canoes, which alone are capable of clearing the narrow line of heavy surf separating the shore from the ocean, which is done at high water, seizing the most favourable instant."

The New Zealand Herald (16 February, 1905) reported that during a hurricane "a huge coral boulder weighing about 20 tons, was cast up at Mangaia from the reef" (photo - H. J. Rickertson, Auckland Weekly News, 25 January, 1912). In this case, (above, at Karanganui landing) the impressively sized rocks may have sheared off the patapata or coastal cliff.

"A Busy Scene at Mangaia where large quantities of oranges and bananas are exported" (photo - George Crummer, Auckland Weekly News, 2 April, 1914).

Alexander George Findlay, 1851, A Directory for the Navigation of the Pacific Ocean, Volume 2

1903

"The reef, which encircles the island at a short distance from the shore, is without an opening, and communication between the island and outside can only be obtained by crossing the reef in Native canoes. This process, where cargo is concerned, is necessarily slow and costly—it takes as long to ship 50 tons over the reef at Mangaia as it does to ship 200 tons at Rarotonga—besides which the produce is always liable to be damaged by saltwater. It has happened, also, owing to this difficulty of communication, that when a steamer has obtained a full cargo at the other islands she has passed on, leaving tons of fruit and produce, which had been got ready for shipment at Mangaia, to go to waste. Steps are being taken, however, to have suitable boat passages blasted in the reef, and when this has been accomplished the chief hindrance to the development of the trade of this island will be removed."
Report on the Visit of Members of the General Assembly to the Cook and Other Islands, Appendix to the Journals of the House of Representatives, 1903 Session I, A-03b

1904

"On 21st August, H.M.S. *Clio* left for Mangaia with Mr H. M. Connal, the Government engineer. At Mangaia a passage was partly made through the reef by means of explosives, but some further blasting will have to be done before the passage is available." *Auckland Star, 2 September 1904*

1906

Mangaia, 18th October, 1906. To the Hon. J. McGowan, Minister in Charge of the Cook Islands, "Dear Sir, We, the undersigned residents [traders] of Mangaia, beg to lay before you the many difficulties we labour under in shipping produce off this island, and hope that you will take steps to have matters made easier for the shippers in the future. Owing to the boat-passage being still uncut, and the great increase of exports by each steamer from 150 tons a year formerly to 160 to 250 tons per month at the present time —it is a risky undertaking to get all this cargo on board with only canoes to work with, when with a passage cut in the reef we could work with boats without the risk of loss of life and damage to cargo. Now the fruit arrives on board more or less wet and being put in the hold in this state it spoils in a very short time, consequently a greal loss to the producers. All the cargo has to be carried across the reef in canoes and taken alongside the steamer, where they run great risk of being capsized or swamped getting off. We may also state that it is a heavy drain on the Natives to keep a sufficient number of suitable canoes on hand to work the cargo, as owing to the hurry and bustle at steamer-time they are always getting smashed, sometimes as many as six in one day, and as they cost between £8 and £10 apiece it means a big lot of money. There being no timber on the island large enough for canoes, they have to get them from the other islands. The late Hon. R. J. Seddon promised that a passage would be cut in the reef, as it could be done at no very great cost. H.M.S. *Clio* was here two years ago and fired several mines; but it was too rough to do anything, and she sailed away. The reef is dry at times for a week and ten days at one time. Hoping that a passage will be cut soon, we remain, Yours, &c, George Brown, T. Glover, S. C. Buckeley, G. Glover, J. Craig, John Glover, C. F. Procter." *Appendix to the Journal of the House of Representatives, 1907, A-3;25*

1906

5th December, 1906. "With reference to the boat-passage through the Mangaian reef, I have the honour to inform you that nothing has been done as yet, and nothing can well be done unless we can insure a deep boat-passage through the reefs. With the present appliances this seems to be well-nigh impossible, for there are but few days in the year when the sea is calm enough to allow the drill to be used on the outer rocks. We have but one man here (Mr. Connal) who is fit to superintend such work, and before I bring an experienced miner from New Zealand I wish to know that there is some prospect of success. My intention is to interview the Chief Engineer in New Zealand, with your approval, and take his advice - W. E. Gudgeon." *Appendix to the Journals of the House of Representatives, 1907 Session, A-03*

1907

"The really urgent work of this island is a boat-passage through the reef; but this is a work that cannot be undertaken with any prospect of success until we can obtain a hand-drill that will bore a hole at least 10 ft. or perhaps 12 ft. deep, and can be used where there may be a foot of water on the reef. Several attempts have already been made to blast passages through the reefs with ordinary appliance - and in every instance they have failed, the shots not being deep enough to obtain a safe passage. If, however, we can obtain suitable hand-drills so as to blow out a fairly deep passage, I intend to commence the work this year, and have placed £200 on the estimates for that purpose." Annual Report of the Resident Commissioner, W. E. Gudgeon, *Appendix to the Journals of the House Of Representatives, 1907 Session, A-03*

1907

"For the last two years £200 has been on the Estimates of the Cook Islands

Administration, voted for the purpose of cutting a boat channel through the reef at Oneroa, a work that is very much needed, particularly since the regular monthly visits of the Union Company's steamers during the last two years began, but no part of this amount has yet been expended on this desirable object. Blasting boat passages has, however, been carried out at both Atiu and Mauke with more or less success, though the steamer but seldom calls at these islands; but Mangaia**,** the second in importance after Rarotonga, has still to plod along under her great disabilities in this respect. It was, I understand, arranged last July that the *Countess of Ranfurly*, if she had made another trip from Auckland to this group, should have brought 10 tons of dynamite for the purpose, but she was sold before the arrangement could be carried out, and it is reported that the Union Company's boat is carrying dynamite for works at Tahiti each trip up to the limit allowed by the law, so our "harbour works" are put off indefinitely, to the great disappointment of the people of this island, who must still ship and land everything through the surf in the frail outrigger canoes." *Marlborough Express, 24 December, 1907*

1907

"Sir, Referring to my letter of the 10th April last, I have now the pleasure to advise you that 1 have shipped to you, per S.S. *Manapouri*, two sets of drilling apparatus for use in making a boat-passage through the reef at Mangaia… I also enclose full descriptions of and directions for the use of the drills, and I hope that the operations will prove successful." Minister Hon. James McGowan to Resident Commissioner, Rarotonga. Cook and other Islands Administration, Wellington, 10th May, 1907. *Appendix to the Journals of the House of Representatives, 1907 Session, A-03*

1908

"It is reported that the work of blasting a boat channel through the reef at Oneroa will be commenced next June. It has long been agitated for, and if the work, under a skilled artisan, is pushed forward to a successful issue, it will prove a great boon to this island. Such a channel will enable boats to be used instead of the cumbersome cargo canoes, which are continually being smashed on the reef, when the sea is at all rough, or capsized alongside the steamer. It is looked upon here as the work of most importance, Mangaia being more entitled to relief in this direction than any of the other islands of the group, from the fact that the Union Company's steamer calls here every month in the year to load produce and land cargo." *New Zealand Herald, 15 April 1908*

1908

"Little has been done in the way of reef-passages. As you are aware, the difficulty has been to obtain the dynamite from New Zealand by the steamer, as the steamer is only permitted to carry one case of 50 lb. per trip, and, as Tahiti has also to be supplied, we have only been able to obtain a few cases, which have been stored at Mangaia for this year's work, when we hope to make a start on the Mangaia passage. …To make a success of any reef passage, it will have to be walled in to stop the sea on the sides and back. During a visit of Mr. Coane, a Victorian civil engineer … I had a conversation with him on this matter, and he quite agrees with me that any small reef-passage without the walls would be useless. The reefs are by no means soft coral, being fairly hard. At any rate, by the little experience I had at the Island of Mauke last August, 1 found that we had not much difficulty in putting down holes of 6 ft. in depth with drills,

The Marotaka passage in 1914 (photos; George Crummer, Te Papa Tongarewa, National Museum of New Zealand)

which I consider sufficient in most places; but the drilling-machines sent from New Zealand were of no use on the hard coral. On soft coral I dare say one of them might do. We have all the appliances at Mangaia to make a start except sufficient dynamite, or, rather, gelignite. I told Mr. Coane about the difficulty we had in obtaining gelignite by steamer and he had got over that difficulty by using Rack-a-Rock, the American explosive, as steamers carry for him the cartridges one trip and the oil the next - the two separate are harmless. I have written to New Zealand on this point, but as yet have not received an answer." *Annual Report of H. M. Connal, the Engineer for Public Works for 1907; Appendix to the Journals of the House Of Representatives, 1908 Session I, A-03 p.25*

1908

"At Mangaia the Resident Commissioner held an inquiry into certain allegations made by John Ariki against the Resident Agent, Major Large, concerning the latter's interference with the work of the natives in connection with the work of cutting a passage in the reef. The Resident Commissioner supported John Ariki in the matter, and stated that the Resident Agent should not interfere in the calling out of the natives for gratuitous work." *Auckland Star, 23 October, 1908*

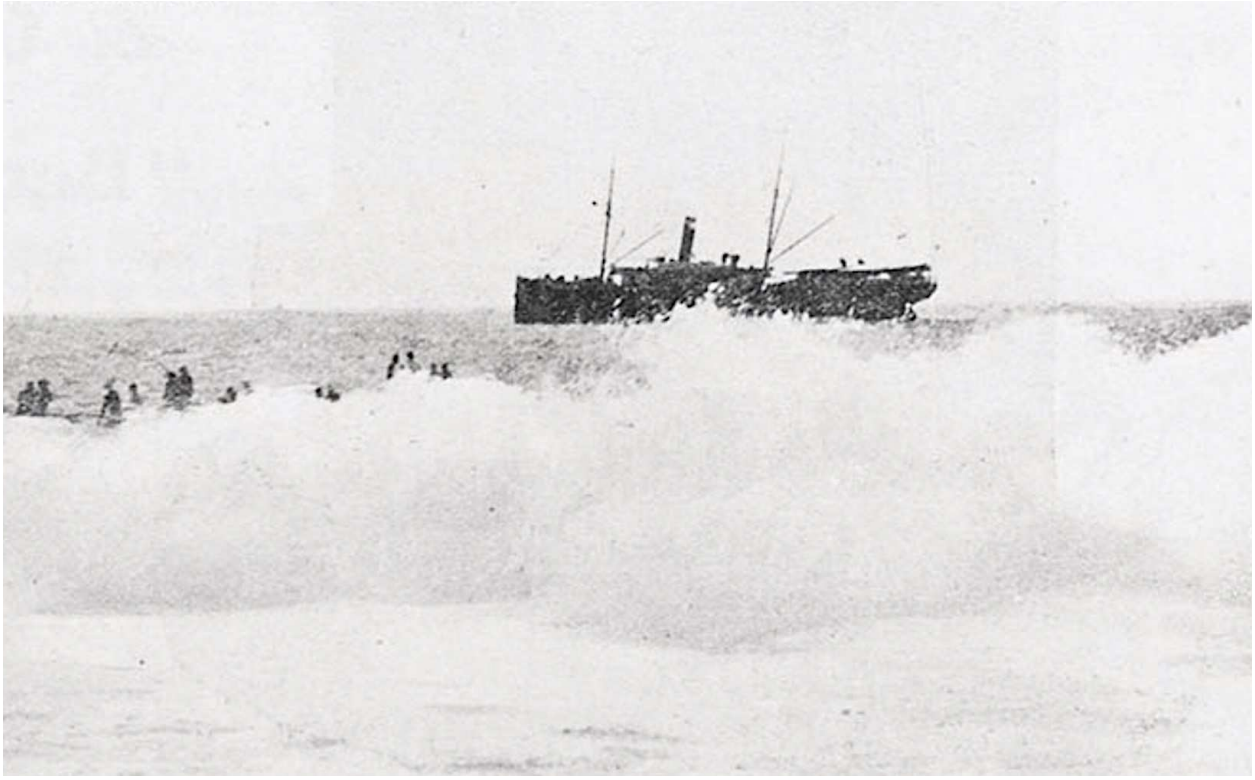
1912

"A total of £625 was spent by the New Zealand administration on construction of a channel between the shore and the reef to permit cargo to be boated from the shore to the ship and vice versa. Previously, cargo had to be carried from the shore to the reef's edge and loaded on canoes there."

Engineers report by H. M. Connal - "The weather for blasting-operations was not so good this time as in 1910; out of the four months I was at Mangaia we were only able to work ten days on the bar or outer reef. The channel is now 450 ft. long, 40 ft. wide, and roughly 4 ft. deep. It is difficult to estimate the average depth, as the channel so far has not been properly cleaned out, which according to the original arrangement the Natives have to do free of cost. The time has now come when the Natives should use boats; as the canoes wear out they should be replaced by boats. To show the advantage of the passage, on the 6th December, 1911, one of the largest cargoes was shipped at Mangaia, composed of about 114 tons of fruit and about 101 tons of copra, altogether about 215 tons, and some 30 or 40 tons of inward cargo landed, and this was easily put on board and cargo landed from 8 a.m. to 4 p.m., seven working-hours (allowing one hour for meal-time). This could, I believe, easily have been done in six hours had the Natives been pushed for time. The work was done with very much less labour to the Natives (having the channel) than formerly when at low tide all cargo had to be carried between the shore and the reef.

…. It is necessary on the outlying islands to have two landings as nearly opposite as possible, and connected by a road or tramway line; then as a rule either the one landing or the other will be workable. I therefore, when at Mangaia, went to the other landing at Atuakoro and opened out the entrance and blew away a coral patch which gave some trouble while working when there was anything of a sea. From experience gained at Mangaia I would not advise this Government to undertake the blasting of any more openings

(Above) When ships arrived on a low tide, cargo was carried to the reef's edge for loading onto vaka.



Cargo canoes waiting to land, Mangaia (photo - McBride Auckland Weekly News, 21 December, 1905)

through reefs (unless blasting away patches or undermined reefs), on account of the heavy cost; also, any small passage made through a reef will only be workable in fairly good weather." *H.M. Connal, Engineer, Public Works, Annual Report to the Resident Commissioner for 1912, Appendix to the Journal of the House of Representatives, A-03, 1913 pp 31-33*

1912

Mangaia, February 1, 1912 - "Mr. Connal, Government engineer, has done all that is possible at the boat passage for the time being, and leaves by the *S.S. Hauroto* to-day. A number of other improvements are still necessary. Both sides of the channel need building up to keep out the sea that flows in on either side. Mr. Connal also improved a landing place on the reef north of Oneroa, which is sometimes used when the weather is not favourable at Oneroa." *New Zealand Herald, 12 February, 1912*

1920

Meeting between the Hon. Sir James Allen (Minister of External Affairs) and members of the Parliamentary Party and Mr. Duncan (Resident Agent) and members of the Mangaia Island Council, Mangaia, 25th February, 1920.

Mr. Duncan, the Resident Agent urged "the completion of the proposed passage through the reef. About £1,600 had been spent in blasting a passage, and it had very nearly filled up again. He considered that the completion of this work was of the greatest importance to the prosperity of Mangaia. The chief exports of Mangaia were copra, bananas, oranges, and sometimes coffee. From March to October each year a regular supply of oranges could be kept up, probably amounting to three thousand cases per shipment. The oranges were of the very best quality, and grew from seedlings. They were not free from the [fruit] fly, but before exports were all inspected and properly fumigated. He was of the opinion also that the sugar-cane industry could be made a success in the island. In reply to further questions the Resident Agent said that he thought the Government should get an auxiliary schooner to run between the islands of the Group. At the present time there were three schooners running which belonged to three separate individuals. The total cost of completing the passage through the reef would be £3,000, but even with the passage only canoes would be able to go in and out, and the schooners and ships would have to lie outside. …In reply to a further question they [the Island Council] stated that about half the fruit went to waste each year on the island. … A member of the Council said that if the Administration would present the island with a motor-lorry to run their produce from the main landing-place to another which was four miles farther along, the Natives would clear the passage through the reef free of charge. He also said that if they were guaranteed a regular service they would be prepared to look after their plantations, which during the last five years had been allowed to go back. The Hon. Sir James Allen, in replying, said that it was quite plain that the main difficulty was shipping and the export of produce. The Union Steamship Company had been approached with a view to improving the service, and he understood that improvement had taken place. But the Government would be prepared to consider the granting of further assistance to the islanders, either by making arrangements with the Union Company or by means of a Government trading-schooner. The question had already been

(Above and below) The Marotaka passage during the 1930s - the CITC schooner "Tagua" standing off. (photo K. S. Graham)

considered, and would be further considered on the return of the party to New Zealand. With regard to the passage through the reef, the Natives offered to remove the material if they were presented with a motor-lorry. That would be considered by the Government on his return. The Government was anxious to improve the landing-place at Mangaia. The Public Works Engineer, who was accompanying the party, would report on that matter." *1920. New Zealand. Visit Of Parliamentary Party To Pacific Islands, February-March, 1920. Minutes Of Proceedings At Mangaia, Rarotonga, Aitutaki, Niue, And Western Samoa*

1920

"At Mangaia … the cut which was made through the reef three years ago has silted up, and all goods have to be taken to the ship by outrigger canoes, which are dragged to the edge of the reef and then launched into the surf. Even in comparatively calm weather, if the wind is inshore, it is impossible to work a ship satisfactorily. Perishable goods must therefore be grown at considerable risk."
Commission To Inquire Into…The Conditions Of Trade Between New Zealand and Fiji, Tonga, Western Samoa, and Cook Islands, New Zealand, 1920).

1931

"Work in connection with the reef at Mangaia is proceeding steadily. The work consists of blasting passages through the reef and widening existing openings in the coral which hitherto were not much used for fruit-loading purposes. This work was undertaken under the direction of Captain Willcocks."
Pacific Islands Monthly, 19 June, 1931

1933

"The Union Company's cargo vessel *Hauraki,* which arrived in Wellington last evening from Los Angeles, via Auckland, experienced considerable difficulty in loading oranges at the island of Mangaia. During tho two days the *Hauraki* was at Mangaia, heavy seas caused much trouble to the natives who bring fruit out to the vessel from the island. Several canoes were upset and natives were injured.

Mangaia is an island with a coral reef running completely round it, and there is no break in the reef to allow canoes to reach the open sea. The result is that the tiny native craft have to wait until a suitable tide and navigate the reef when it is awash. On the first day the *Hauraki* was at the island there was a heavy surf which caused so much interference that the vessel was obliged to stand off until the next day, when it was hoped the storm would abate. Under ordinary conditions about twice as much fruit would have been loaded.

The next morning the *Hauraki* returned and recommenced loading operations, but by afternoon conditions were such that it was impossible to work the reef. About every second native canoe was being tipped up in attempting to get through the breakers. The result was that nearly 200 cases of oranges were not taken away.

One of the difficulties encountered at Mangaia is the fact that vessels which come to load have no anchorage there and are obliged to steam up and down along the reef. The natives must therefore tranship their fruit from canoes in the open sea to a ship which is obliged to keep moving.

Channel excavation on Mangaia

(Top) - Win Ryan signals to George Tuara to ignite explosives in the reef channel; (below) puna members manually clear coral rubble from the passage and form a human chain to carry the debris to shore. (Screenshots from "Drums Across the Lagoon, NZ Film Unit, 1960, Ngā Taonga Sound & Vision).

(Below) George Tuara worked with Win Ryan, detonating the old 450 lb. World War II bombs used in blasting out the Avarua channel. He and his brother Alec, who helped lay the bombs underwater, were paid 3 pence an hour 'danger money'.

Mangaia Boys' Brigade members take part in clearing rubble after channel blasting at Avarua Harbour, 1950s (photo: D. S. Marshall)

About 3600 cases of oranges were taken on board, together with 150 cases of tomatoes. This fruit was unloaded at Auckland. Although the *Hauraki* frequently calls at Rarotonga and Aitutaki on her voyages from Los Angeles to New Zealand and Australia, she calls at Mangaia only about three times a year." *Evening Post, 22 May 1933*

1949

"The Cook Islands Resident Commissioner, Mr W. H. Tailby visited Mangaia to announce an ambitious 5-year plan for Mangaia, including the deepening and improving of the canoe channel, plus an arrangement for the diversion of heavy surf-waves that, it is hoped, will ensure fairly calm water in the channel even with a rough sea outside." *Pacific Islands Monthly, August, 1949*

1951

Visit to Mangaia of *H.M.N.Z.S. Kanieri* to do blasting work on the reef channel.

1955

Irish writer Ronald Syme, who was then resident on Mangaia and claimed to have trained saboteurs in explosive work during the war, undertook blasting on the Atuakoro channel using polar blasting gelignite to remove coral heads and shift boulders that were choking the passage. He made contact with ICI, London for advice on suitable explosives for the job - *see the resulting ICI advertisement page 125 Pacific Islands Monthly, 1 March, 1956*

1957

"Mr. W. H. Ryan, Superintendent of Works, Rarotonga, returned from the northern Cook Islands in early May after carrying out demolition work on some of the reef passages. The standard Naval depth charges that were used completely pulverized the coral rocks. Mr. Ryan will carry out further work on Cook Islands reef passages in the near future, and a big work programme is planned for the passage at Mangaia." *Pacific Islands Monthly, 1 June, 1957*

1957

"Lack of time and money have prevented a full scale attempt by Public Works to solve the problem of widening and deepening existing reef passages and providing passages where none exist.....

Mr. W. H. Ryan, Superintendent of Works, has studied the problem for the last decade and now feels he has found the answer. The success of his work at Manihiki last June confirms this opinion.

Last February, Mr. Ryan completed a short frogman and under water demolition course at the RNZN base at Auckland and returned to Rarotonga in March aboard *RNZN Rotoiti* which also carried 36 redundant Air Force depth charges.....

Mr. Ryan, a much decorated officer of World War II, has had extensive experience of explosives. He is enthusiastic over the effect of the depth charges which completely pulverized the coral at Tukao, and he is convinced that “playing with gelignite is just a waste of time.”

At Mangaia it is planned to blast a reef passage with a minimum depth of 30ft. and a 90ft. wide entrance. The passage will have high, solid reef edges on both sides. Behind the entrance will be a

On the South Sea Island of Mangaia,
the natives can now bring their boats right up to the land through a deep channel.
That channel pierces a coral reef which has,
since time immemorial, set a barrier
between the open sea and the silver beach.
Cunningly placed explosive charges made the channel
— and I.C.I. made the explosives and advised
the amateur engineer who did the work.
Now the natives, vastly impressed, point out other jobs that could be done
in like manner — rocks to be split — palms to be removed.
Many of their ideas are impracticable, but they are right in believing
that explosives can be a powerful servant in unlikely ways.
Most of I.C.I.'s output of explosives goes to the mining industry,
but smaller amounts go to farmers for blasting boulders and tree-stumps;
to engineers, who use them to power the underwater bolt-driving guns used by divers,
and to oil prospectors, who use explosives to set up ' echoes ' under the ground,
which help them to find oil-bearing rock.

South Sea Island magic

Thus, and in a thousand kindred ways, I.C.I.'s research and production are serving the Nation.

ICI

This advertisement appeared in the London Magazine "Punch" on 10 August, 1955. The "amateur engineer" referred to was Ronald Syme.

cleared area 170ft. wide, 60ft. long and with a minimum depth of 40ft.

A channel 30ft. wide 150ft. long, minimum depth 20ft. will run from this area to a silling pond 100 ft. by 60ft. The silling pond, which will be located in front of the landing place will have a minimum depth of 12ft.

The proposed passage will be at Vairorongo, 900 yards north of the existing passage at Oneroa, and its large dimensions will be made easily possible by the existence of a large freshwater stream which flows under the reef. The estimated cost of the work is £2,500 and about 60 depth charges will be needed. The Mangaia Island Council will raise both money and free labour and the project is being enthusiastically supported by the people. The success of the Mangaian reef passage project will, to a large extent, depend on the availability of old Service explosives." *Pacific Islands Monthly, 1 August, 1957*

1959

"Mangaia has a harbour for the first time. Hitherto, anyone landing there had to shoot a narrow opening in one of the Pacific's worst reefs. Now a channel has been blasted out wide enough for a schooner and the lagoon was deepened by dredging after explosives shattered its hard coral bed." *The Sacramento Bee, 29 October, 1959*

1966

"The New Zealand naval vessel *Endeavour* unloaded 500 out-dated anti-submarine projectiles (each weighing 450 lb) and four tons of TNT at Mangaia, Cook Islands, early in June. The ship had to lie off the reef while the explosives were unloaded into small island craft, as she could neither berth nor anchor at the island. The explosives will be used in reef blasting to develop a harbour at the island." *Pacific Islands Monthly, 1 July, 1966 (These are the explosives that were stored for three decades at the "Bomb Shed" at Atuaokoro)*

1981

"Two new barges are to be provided to Mangaia under the New Zealand Bilateral Aid Programme. The barges are 10m. long, steel and powered with twin 75hp diesel engines. They carry 9 – 10 tonnes of cargo and were built by Rarotonga Welding and Steel Construction Co Ltd." *Pacific Islands Monthly, 1 January, 1981*

1982

"At present all ships unloading at Mangaia are forced to lie off while small barges transfer cargo from them and offload it at a narrow channel blasted in the fringing reef that continuously surrounds the island.
The average sea bed slope away from the reef edge all around the island is fairly steep, at between about 35 and 37.5°. The 1000m depth contour lies generally at between about 1.8 and 2.25km from the coast. The average slope is interrupted in places near the reef by narrow terraces, or slope breaks, and by the presence of saddles in a few places in the deeper water further offshore.....These sea bed slope breaks/terraces, particularly the 40m terrace where best developed, may afford some facility for the construction of a shipping anchorage close to the shore."
G. A.Gauss, 1983, Nearshore Survey of Mangaia Island, UNDP.

Mangaia ava/reef passages

travelling from South to East to North and West

Puna Tamarua

Turangaraui
Te ava o Kaina
Teone
Tekopua
Aeru
Temotu
Ovae
Rererue
Paengaora
Teruavaaroa
Arakino
Avapuipui
Tepaeroa
Kaititera
Tokaau
Puakangururu
Tapaupoko
Kopuarei
Akamaru
Teruaika
Parauka
Tamanu
Tengaatanga
Koatuputuputu
Avaavai
Teoneroa
Anapu
Kouranui

Puna Ivirua

Titiko
Koatututoru
Ananui
Paetaa
Avaavaroa
Tukiarangi
Temotu
Vaingatara
Paremoremo
Anguna
Teoro
Ruamanga
Terimu
Tukinamu
Arataa
Kirikiri
Puuka
Anakave
Tipou

Puna Karanga

Karangaiti
Tepuna
Vaitekaa
Arapiri
Karanganui
Anatiki
Ovarei
Teumi
Tevai o te papa'a
Omio

Puna Tava'enga

_____

Te Ana Keo
Araoa
Kopu Terea
Te matenga o Tukaro
Mataraui
Te kumukumu
Uapai
Ngakau erea
Terere
Tukauvai
Atuokoro (Atua o Koro)
Irori
Veuveu
Te utu para
Kanapanapa
Koropera
Taaruke
Karii motu
Te mata i te rangi
Pueu ngao
Pueu iti
Ana o Aru
Avarua
Kanae
Vairoronga (Vai Orongo)

Puna Keiā

_____

Ngaei
Eke (Te poo araei)
Onu
Kopua roa
Ioau
Marotaka
Vaikare (Kaumata landing)
Ouri
Toka vete
Ruapui
Terei
Tua'ati
Opiu
Te puipui matangi
Te ara tamanga

Puna Veitātei

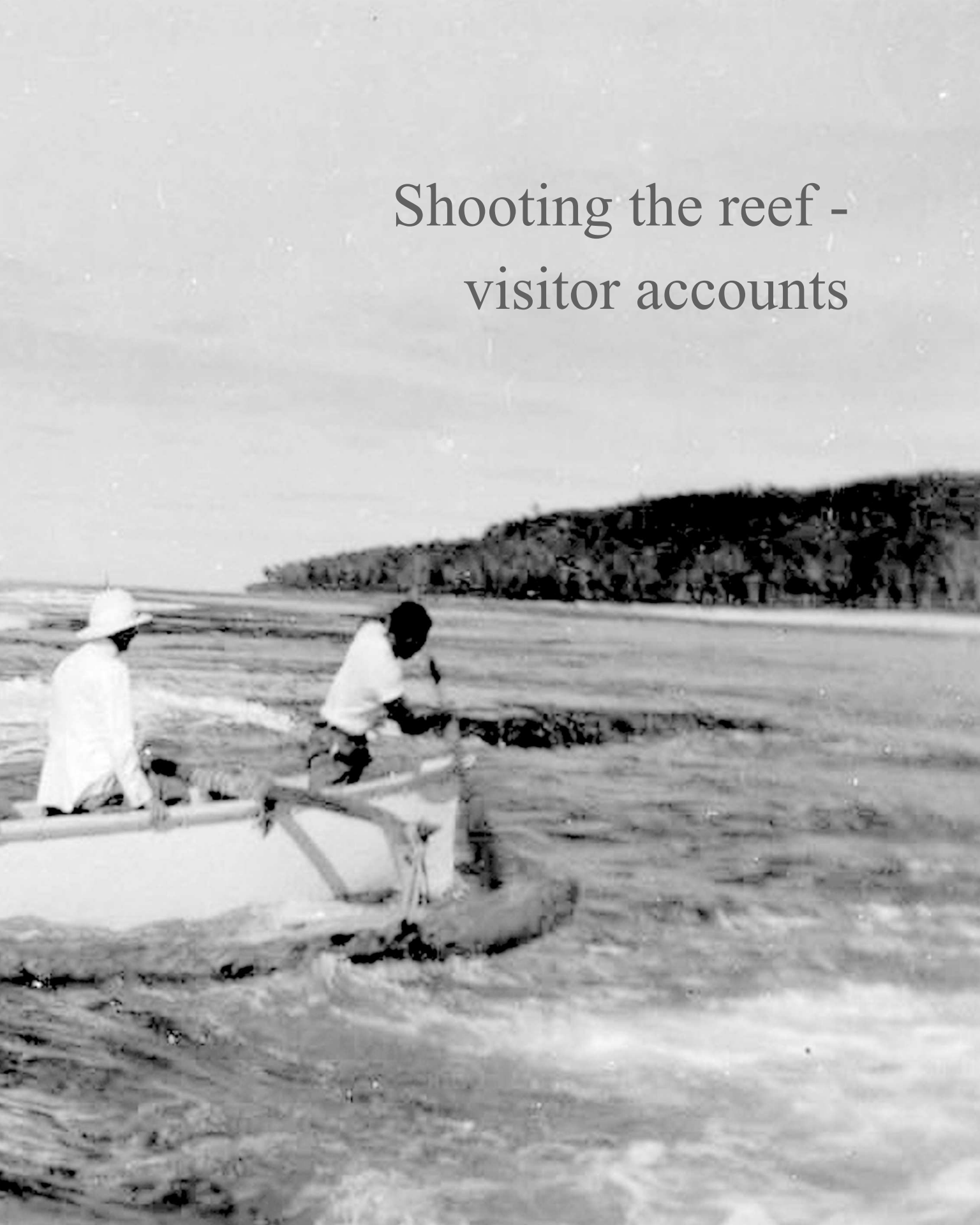
_____

'Ava'ava'nanue
Te mangamanga
Onepoto
Arakino
Te kopuau'u
Te papa
Ovaru
Te ara o toerau
Ioopu
Poonui
Maniania
Tukoropa
Te vai nato
Apurere
Auneke

With thanks to the following for sharing their knowledge of the reef - Terepai Metuakore rangatira (Tamarua); Daddy Mauriaiti kavana (Karanga); Maire Kareroa rangatira (Veitātei); Aerenga Matapo (Tamarua); Ngametua Toko (Ivirua and Karanga); Moekapiti Atingakau rangatira and Tuara George (Tava'enga); Poroa Arokapiti (Veitātei); Taoi Nooroa rangatira (Kei'ā) ; Pastor Ngametua Papatua rangatira (Kei'ā) and Tetangi Matapo M.P. for helping to collate and check the lists.

The New Zealand Governor Lord Galway and Lady Galway shoot the reef in 1939 (Photo: Cooper Collection).

Shooting the reef - visitor accounts



1869

An Adventurous Rush

Mangaia looks a very small patch on the wide ocean, and as one approaches its coral ledge, through which there is no opening, one wonders whether it can be possible to gain a footing without danger to life and limb.

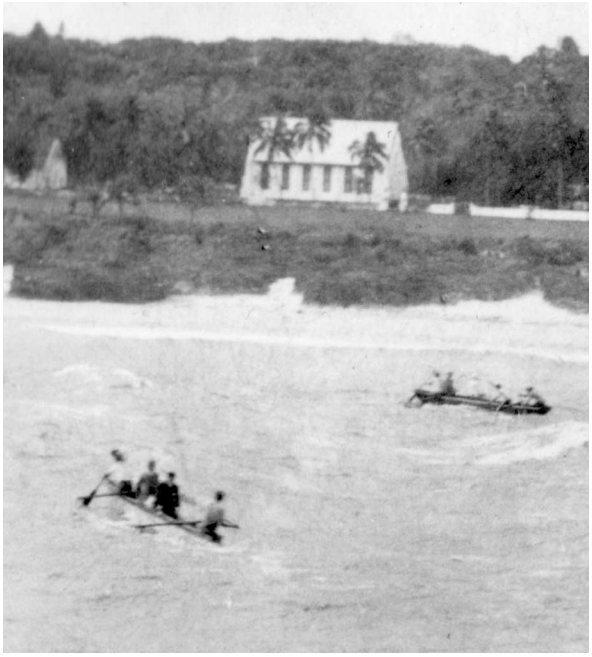
Sand and vegetation and houses and a low range of hills are seen in the distance, but between you and them there stretches out to sea a platform of coral rock, against and over which the sea dashes and breaks; and then it recedes, leaving to view a rough, perpendicular surface; and yet there is nothing for it but to go over this platform.

Your boat anchors outside, in about three fathoms of water on a sunken reef. A canoe, cut out of a log of wood, paddled by two natives, comes alongside, and one or two passengers, with great care, get into it. It returns nearly to the edge of the barrier and waits for the swell of the sea; and as that swell comes in and raises over the reef, the natives paddle with all their might.

In a minute the canoe is grounded; out the natives rush and drag canoe and passengers towards the land, ere the receding sea has time to sweep all back and down the craggy barrier into the ocean. It requires some nerve, and confidence too, for a stranger to attempt the adventurous rush; and yet all the ladies of our party most heroically accomplished the feat.

Accidents occasionally occur, and natives are sometimes drowned there.

Visit to Mangaia. The Rev. T. Powell, 23 October, 1869 in Chronicle of the London Missionary Society, 1 April, 1870



The New Zealand Parliamentary Party landing at Mangaia, 29 April, 1903 (photo; G. A. Read, Auckland Art Gallery Toi o Tāmaki, 1999/37/12).

1920

Wet through from head to foot....

The visit of Sir James Allan, Minister of External Affairs of New Zealand, 1920

The reef at Mangaia is barely awash at low tide and everything intended for the island must go over it in the little outrigger canoes of the natives. A fleet of these came out when the 'Mokoia' arrived to ferry her passengers ashore.

They are queer-looking craft, narrower and deeper than the average Maori canoe, capable of holding anything from four to ten men, built in two pieces, each hollowed from a log, and sewn together with sinnet made of cocoanut fibre. So cleverly is this done that after they have been painted the casual visitor would not notice the joint, while they do not leak.

The outrigger makes them fairly safe against capsize, and the natives handle them with great skill. The party perilously transferred themselves, three or four at a time, from the ship's gangway to the frail craft, which, propelled by four well-swung paddles, drew swiftly towards the reef.

Arrived off it, the visitors saw the long Pacific rollers come lashing in, covering the reef to a depth of two or three feet as they advanced, leaving it bare in retreat. The crews hung off the reef, waiting for a big roller to come in, and when they deemed the right moment had arrived, gave way all together, swinging in on the top of the roller to the reef edge, where a half-dozen natives, standing in, waiting, seized the canoes and rushed them on to the top of the reef before the backwash could snatch them back—a ticklish business, but performed with such skill, that scarcely a passenger was splashed.

A haul of 10 yards, the canoes scraping heavily all the while, brought the craft into slightly deeper water through which they made their way to the landing place at the foot of a steep hand of coral.

Mangaia, Landing on reef in a canoe, 29 April, 1903 (photo - Henry Winkelman, Auckland Institute and Museum, Neg. 15295)

…The Minister met the Resident Agent. (Mr Duncan) and the Native Council, and discussed with them the needs of the island. Chief of these was the blasting of a gap in the reef so that the canoes may be run in and out when the weather is rough. At present this is a physical impossibility, and cargo vessels arriving when the wind is blowing in from the west, must either wait for calmer conditions or try another workable spot five miles down the coast, where the goods have to be carted to and from the main village Oneroa. The Government spent £15,000 some little time ago in blasting a channel through, but a hurricane, which struck the island last January, filled it up with boulders and so it remains. It is estimated by engineers that the expenditure of £3,000 would make a channel of sufficient width to render further closing very improbable. Meantime the natives ask for a motor lorry to bring round cargo dropped at the more distant landing place……

When the time came to leave the island it was found that getting off the reef was a no less difficult operation than landing upon it. The natives standing on the edge of the deep water hung on to the canoe till a big breaker coming ashore flooded the reef and left a temporary patch of comparatively calm sea in its wake. At the right moment the craft was hurled seaward; her crew paddled like demons till the danger zone was passed, and then moved off to the ship in more leisurely style. One of the skippers made a bad guess just on nightfall, when Sir James Allen, Sir Heaton Rhodes, Colonel Tate, and one of the newspapermen of the party were going aboard. The canoe left the reef all right, but when she was about 30 foot out one of the biggest rollers of the day came along. It towered with unbroken crest above the tiny craft as it swept inshore. It did not seem possible for the craft to rise to the occasion —and it wasn't. Her bow lifted a little on the curl, and then into the foot of the wave she dived like a flying-fish taking the water. The breaker swept clear over her, leaving her gunwale under and her passengers wet through from head to foot, sitting waist deep in water while they waited for the next act. Two of the crew leapt to the outrigger to prevent a capsize, and then all frantically paddled for the open sea for the canoe was still in the danger zone, and liable to be swept on to the reef and smashed to matchwood by the incoming rollers. The crew won the race against the breakers, and after getting the waterlogged craft beyond the "set" shoreward, her passengers were transferred to another canoe, reaching the island without further incident.

A. E. Clarke, Evening Star, 13 April 1920

1920

Shooting the Reef

by Mr H. E. Holland, M.P.

The outer wall of coral rises almost sheer from the depths, and the traveller may only reach the island by shooting its sea-washed crest in the small native outrigger canoes, carrying on the average four passengers in addition to the crew, which also usually numbers four.

The canoe was a craft that was narrow and strange to all of us, and I only succeeded in boarding it from the ship's gangway with some difficulty. I found myself wondering how I should disembark once the reef was crossed and the lagoon navigated. Our feet were awash as the canoe — rising and falling wtih the long swell of the waters — swept towards the surf. We hove to a short distance from the reef, whose range of coral was now swept and submerged by the great rollers and now frowned down upon us like the dripping outer rampart of an impregnable fortress. The dark, skinned oarsmen watched for the big roller — it has been said they wait for the ninth wave which is always the largest. One moment the wall of rock towered above us; the next we were lifted high on the crest of the incoming sea, the man at the prow was calling loudly to his comrades, and then all of them were paddling for dear life and shouting to one another, and we were being skilfully steered by the island seamen and flung by the sea to where the blue waters were churning into a fury of angry foam.

A moment later the canoe was grating on the rough surface of the reef, and a score of dark-brown hands were dragging us over the coral and into the shallows of the lagoon. Easy paddling over a couple of hundred yards, with the oarsmen occasionally dropping overboard to push the primitive vessel along when the water became altogether too shallow for rowing, and we were at the rocky landing place, where the athletes among us were able to spring from the canoe to the coral and race for the land at the cost of nothing worse than sea-wet feet. I went ashore on the back of a friendly native.

…The canoe in which I journeyed back missed its wave and lay for a space on the surface of the dripping reef, whence we watched the sea falling away from us. It was like looking over the edge of the world with a boiling cauldron immediately below. Then the sea returned, a mountain of water came crashing upon the reef, the paddles were furiously plied, and we shot through the surf, rode high on the incoming wave, and were soon gliding away from the reef and outward to where the steamer was still drifting lazily. The canoe which carried Sir James Allen and several others was swamped on the reef, and the Minister and his party sustained a substantial wetting before they were transferred to another canoe.

Grey River Argus, *15 April 1920*

1924

Paddle like fury....

John McGruther, Resident Agent Mangaia (1924 - 1939).

McGruther swam in the reef passage adjoining the Marotaka Passage, every morning of his residency. The passage has been named Mākuru in his honour.

The ship is surrounded by a swarm of canoes and catamarans —paddled by laughing, yelling Maoris. Then comes the excitement of landing over the reef, especially when there is a sea running. I must describe this in detail. You climb down the ship's ladder and stand poised on the bottom step until the bobbing catamaran from way down comes up to meet you. Six canoemen yell at you to jump, and you jump, trusting to luck not to miss the crack that passes for the hold of the canoe, and crossing your legs to get them both in at the same time. The next few minutes you pass in wondering how it all happened, and in wishing your friends could see you! Then you set out on the Pacific swell for the reef, a quarter of a mile away.

You see it ahead of you. There is no mistaking — anything from two to seven feet of boiling foam. You pause half a chain from the jump. You are given ample time to get acquainted with all the possibilities. The canoe-men hold the canoe on the edge of this nightmare, while you wonder how in creation your frail craft can make it.

All of a sudden there is a yell; your canoe-men paddle like fury. You find yourself on the downward slope of an advancing wave; you look down on the shallow water of the inner reef. There is a grating on the edge of the reef bank, and out hop your canoe-men, who drag you out of the boiling foam into the calm of the inner reef before the vicious-looking breaker, which is following fast behind, gets you.

You are safe, and you heave a sigh and wonder how you got out of it all, dry! This is how you come ashore. You wonder how you go out again over the reef. So did I, and asked the very same question. The same conditions apply in both cases. You wait for the right moment, when a receding wave has filled up the hollow at the edge of the reef, and paddle out like fury before the next incoming wave—and if is usually a big one—makes you "loop the loop” backwards; and this often happens when the canoes are going out with oranges, but always through carelessness. The Natives don’t care a cuss; they laugh and yell, swim after their tossing cases, toss them on to the canoe and climb aboard. This, I am glad to say, I have never seen happen to a passenger canoe.

Gisborne Times, 3 September 1924

1935

The vice-regal canoe

The shouts and laughs of natives woke us up that morning, and we jumped to portholes to see them alongside the ship in their long outrigger canoes, joking with the sailors on deck.

In the background was their island, much higher than most of its size, protected by a high reef which can be negotiated only by canoes.

The native canoe looks an inadequate vessel for working cargo. Its length seems poor compensation for its extreme narrowness, and though the outrigger is solid it gives no great impression of stability. But with skilful handling, which they get in Mangaia, the canoes can move cargo very fast.

One of those alongside was singled out from the workaday craft by neat painting and by three seats set on the gunwales and with backs and sides carved from wood. This was the vice-regal barge, specially prepared to take Sir Charles Fergusson ashore when he visited the island, and since then reserved for the transport of distinguished visitors, under which heading we came.

Two minutes in a canoe, with only a slight swell running, reassures the most timid traveller till the reef draws near, and then bronzed cheeks grow pale. “If you get 'the wind up, don’t let them see it,” Dr Ellison had warned us. “If they do, they might put a bit of spray aboard just for fun.” As we hung off the reef, waiting for the right wave, we remembered the advice, and found it hard to live up to it. Each wave broke in a smother just in front of us, and, as it fell back, showed a great hollow of sea in front of our bow and a steep, hard, coral wall at the other side of it. Half a dozen times this happened; then there was a cry of “ tau, tau, tau ” from all the men, they dug their paddles in, powerful stroke after powerful stroke, the canoe perched on top of a wave, shot forward, and the boiling reef was behind us. No one seemed to be sorry.

R. K. Palmer, Otago Daily Times, 12 April 1935

1935

Hurdling in a canoe

G. Morrison Blanch

Twenty five yards from the shore at Oneroa, the reef drops a sheer 600 fathoms (3600 feet), making an anchorage there impossible. Ships stand off shore, and all produce is carried to and from vessels in small but highly seaworthy outrigger canoes, expertly propelled and navigated by the builders. The hulls are hollowed out tamanu wood logs, which are brought from Rarotonga, the local supply having been exhausted. Some of the larger canoes have been made from two logs, and are spliced together athwartship with sinnet and a native-made putty. The outrigger is usually fashioned from the hibiscus tree, being a very light and buoyant timber.

As I have already mentioned, loading is carried on with the ship lying off the reef. Naturally, the engines had to be manoeuvred from time to time to check the vessel's drift and to keep her broadside to the reef to form a lee side for loading. The natives get a great thrill out of having their canoes caught in the wake streams of the propellers, and needless to say, there were not a few capsizes.

Slinging a load of orange cases in a canoe bobbing up and down in a swell is no mean effort, and it is remarkable how skilled and agile the natives are at it….

A moderate swell was running and a breeze with it made things very lively in those sturdy little craft. The short trip from the ship to outside the reef was quite an experience to me, the canoe rolling and pitching, but quite under the control of its crew of four paddlers. It was low tide and the natives had to exercise great care in their choice of wave on which to "hurdle" the outer edge of the reef. Any miscalculation or slip on their part would lead to a capsize, a smashed canoe and even possibly serious injury to the occupants.

I guess four minutes elapsed before a shout from the helmsman indicated that a favourable swell was approaching, and at the same time four paddles churned up the water. In a fraction of a second, we were shooting towards the shore on top of a wave, at what seemed an amazing speed. Just as we crossed the reef's edge the wave broke around us with a terrific crash, half filling the canoe and drenching me to the skin. The canoe got out of control, and acted like a crazy animal. One second it was broadside to the shore, next head on and then broadside again. We bumped badly on the coral, but were soon grasped and steadied by a dozen natives who were stationed in the shallow water for that purpose, i.e., to assist canoes on the outward and inward passages.

It was all over in a few seconds and one scarcely had time to realise everything that took place.

Returning to the ship held many thrills too. Our reef pilots guided us out to the edge of the coral reef, and held us there until a heavy backwash would assist in bearing the canoe over the ledge during the period between incoming waves.

Besides having me as freight, there was a payload of 18 cases of oranges in the canoe so the crew had to exercise great care clearing the reef.

Without any warning our craft received a hefty push and we were shooting forward over the edge and into deep water. The sudden push caught me unawares and I found myself in the bottom of the canoe, much to the boys delight. Just outside the reef a "comber" caught us, the cases shifted, I shifted, and had it not been for the agility of one of the natives we all would have been swimming for life. He swiftly slipped out onto the outrigger, and his weight centred there, restoring stability until we re-stowed the freight. I wasn't sorry to be back on the old *Haurakie* although I would not have missed the experience for anything."

Grafton Daily Examiner, 15 July, 1935

This highly decorated Mangaian cargo canoe from 1909 recalls Anderson's 1777 description of an 'Ātiuan canoe that was "curiously stain'd or painted all over with black in innumerable small figures, as squares, triangles, &c and exceeded by far, any thing of that kind I had ever seen amongst any Indians" (Beaglehole, 1967, Vol.II; 841). (photo; Auckland Weekly News, 6 May 1909).

1953

Something had gone wrong

Pastor J. E. Cormack

An account of returning to the Maui Pomare in a Mangaian surf boat loaded with passengers and cases of oranges. Cargo boats cross the edge of the reef on the crest of chosen waves, and when the sea is rolling in from the wrong direction, a crossing is fraught with hazard.

Our small boat has completed loading and we are now seated atop a cargo of 24 cased oranges for the New Zealand market.

The small frail craft slowly edges its way along the narrow channel towards the reef. About 25 yards from the line of angry breakers we wait, as the watchmen on the reef's edge scan the sea, watching for the correct series of waves before giving us right of way.

For twenty minutes we wait, while a string of loaded boats take their place behind us. Our native captain and his crew are fully occupied in keeping the little craft's head to the waves which sweep across the reef.

At last we are given the signal and our two rowers pull with might and main toward the foaming billows. Their captain literally yells his orders to them to put every ounce of strength into it, and they certainly do.

We are now approaching the edge of the sub-merged coral cliff where rollers mount higher and higher, and finally crash with ceaseless thunder against the jagged walls.

These great swells have come in unbroken freedom across countless leagues to the South Pacific from the Antarctic.

Unconsciously we tighten our grip on the orange case beneath us, and prepare for the crossing.

We are now on the edge and should soon be through. But something has gone wrong. There has been a split-second error in timing with the result that the waters have rushed back to the ocean, leaving our little craft poised perilously on the cliff's edge, with its nose pointing sickeningly downwards toward the crushing sea.

Now a huge wall of water rises before us and curls green as it breaks our bows. Surely we must be engulfed. But the boat lifts as the water rises and we slip off the reef's edge. Then our bows plunge into the boiling sea before us. But miraculously we are righted and are still afloat.

The captain shouts and strains on the steering oar; the muscles of the rowers stand out hard and tense as they pull to save our lives and cargo.

We are quickly drawn away from the reef by the

foaming back surge as old briny withdraws his diabolical forces, to gather them for the next onslaught. We are in the midst of masses of foam and spume that come swirling out of the crashing water.

We brace ourselves as we see the second comber, like a huge battery, rise menacingly as though to pound us into the deep. The curling breaker picks us up and turns us broadside on.

It seems that nothing can save us now. Our boat is a cockleshell in a roaring chaos. We must be capsized now, and perhaps dashed without mercy on the reef we have just crossed.

Again we experience a miracle! The seething billows let us go, only a few feet from the coral wall, and our crew labours fiercely to turn the boat's prow back to the open sea.

The third wave is not so large. It lifts us high on its crest; then we slide away down its back into the safety of the sea beyond. We are half full of water, but afloat.

As our heroic and skillful crew complete the arduous task of bailing, their exhausted captain orders them to rest a while before pulling over to the *Maui Pomare*. There he stands, steering oar in hand, his whole body trembling in reaction to the tenseness of the experience.

Pacific Islands Monthly, 1 April, 1953

1955

Rowing for dear life….

Ronald Syme

There's no basket to swing us overboard and into the waiting surf-boat. We climb down the ladder slung over the *Maui Pomare's* side, and a grinning Mangaian grabs us as his boat rises on top of a swell. There isn't much comfort in these heavy timbered craft, but you'll be reasonably comfortable, sitting on the wooden cases containing tinned meat or rolls of cloth, which are being taken ashore to the little trading store. You're going through your first reef, and it's an experience you'll remember. That's why I told you to put your camera and wrist-watch in a water-proof sponge bag. I've been upset on a few reefs and I know what it's like to try and swim out through the surf to the open sea.

What's this you're wondering? Why should we swim out to sea, instead of towards the shore? Because in these islands, an incoming wave would pick you up and grate you like a nutmeg on these coral reefs, which are covered with millions of jagged spurs and sharp edges. Out in deep water there *may* be a shark, but it's better to risk that than death on those foam-swept rocks.

Now you understand why this boat is so wide and heavy, with wooden sides an inch-thick. It has to take quite a battering at times.

There's the entrance to the reef passage, directly ahead of us. You can pick it out by the smooth gap in the foam, which is bursting against the rocks on each side of it. How was the passage formed? By a stream of fresh water, which flowed into the sea at that point in bygone ages. (Coral won't grow in brackish water).....

Watch the steersman, standing erect in the stern and swinging his weight on the fifteen-foot steering sweep. He's studying the rollers ahead of us and waiting for the right moment to dart into the mouth of the passage.

"Ariana" he calls to the six rowers. That means "Wait". They'll stop rowing now until he shouts "Oe!" which means "Paddle". Hear that roar of the surf? …. There's a big roller coming up astern now…. "Oe….Oe kotou!" (Row …row all of you), shouts the steersman. Six oars dip into the water. With short, quick, stabbing strokes, they urge the boat forwards. The men are rowing for dear life. Hold tight; we're going in on this wave.

The roller picks up our ton-weight boat as though it were a scrap of wood. Suddenly, the surface of the sea is away down below us, and we're balanced on top of a wall of water. The speed quickens and a cloud of spray hisses outwards. By Jove! Watch how that steersman is fighting to keep bows-on. We're swinging a lot ….this wave seems a bit fierce for our heavily-laden boat. Hang on … hang on! We're going broadside. The rowers and steersman can't keep her straight. I think we're ….Yes we are! We're going over.

Ronald Syme, The Cook Islands, Book III, A Tour of the Islands, Pitman and Sons, London, 1955

1906

Two canoe-men drown

Another canoe accident occurred here on the afternoon of February 6, while the *Taviuni* was in the roadstead, off Oneroa, this time with the loss of two natives of the island, named Koroiti and Kopuiti. Their canoe, which was alongside the steamer at the time, was turned completely over by a sling of boxes in the act of being hoisted up on deck from Ua's canoe, outside of them, catching in their outrigger.

At this time the *Taviuni,* which, owing to the north-east gale, had drifted a considerable distance from the shore, started to go ahead to get close up to the landing-place again, the two canoes in trouble dropping astern, unnoticed by the officers.

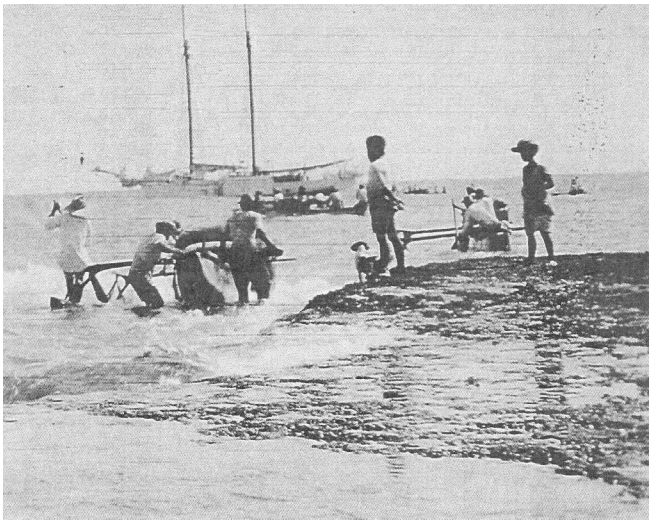
This kind of accident is a common one alongside the steamer, and little notice is taken, as the natives are such good hands in the water.

Ua and the three men in his canoe set to work at once to save their boxes of fruit, which were floating about in the sea. While so engaged, Tere, the third occupant of Koroiti's canoe, swam over to Ua, and begged him to go with his canoe to assist Koroiti to right his boat, which was drifting bottom upwards some distance away, with Koroiti and Kopuiti hanging on to it and calling for assistance. Ua refused to leave his cargo for the purpose of helping the unfortunate men, but shouted out to them to swim over to his canoe as Tere had done. Whether able or not, this they did not attempt to do.

Ua and his men then paddled away for the shore, taking Tere with them, but leaving Koroiti and Kopuiti, who were loud in their lamentations, to their fate. When near the reef, Ua told Tere to swim ashore, which he did, and get another canoe to save his companions….

As soon as the affair was reported to the Resident Agent, Major Large, he asked Captain Chrisp to go after the castaways, at the same time sending Tere to point out the place where they were last seen. The steamer cruised about the spot for some time, all hands on the lookout, but without success, the unfortunate men had either, in the time that had elapsed, gone down, or their water-logged canoe had drifted away out of sight with the south-west current prevailing at the time.

New Zealand Herald, 15 March 1906



1939

Unloading cargo at Mangaia

At daybreak next morning we were awakened by the shouts and cries of the Mangaians, who had come alongside in their canoes, each piled high with 20 cases of fruit, and paddled along energetically by three or four of a crew.

And jolly, laughing … fellows they were, chattering and joking most of the time they were working.

Once, in the midst of operations, two cases slipped out of the sling, and almost instantaneously the four men dived, four pairs of feet disappeared beneath the water, and almost as soon as the cases hit the surface, they were hoisted back on to the canoe and so back into the sling, as if the whole performance had been rehearsed a hundred times.

As soon as the loading was over, a few slings of timber were dropped into the sea. These were soon secured in handy-sized bundles by the men in the water, who towed them to shore behind their canoes, or paddled them as rafts, or pushed them as they swam.… Our last glimpse of the happy people of Mangaia was of those men struggling in the sea, propelling their loads of timber ashore.

North Canterbury Gazette, 14 September 1939

1944

Boats unsuitable....

The damage done by sea-water to recent imports of rice and flour has resulted in a new (and stringent) series of rules on lightering in boats. The old canoes very rarely damaged their freight but with the boats (introduced in 1941- 42) soaked foodstuffs seem more the rule that the exception!

Boats are entirely unsuited to local reef-conditions. But they hold more, and, at 4 shillings per hundredweight, pay better dividends than canoes that are too narrow to carry anything but ‘deck cargo.’ There seems no answer to this problem that will suit both traders and native boatmen.

Edwin Gold, Pacific Islands Monthly, 18 September, 1944

Mangaia canoemen the best

"Mangaia had the best lighterage operation of any island. Their lighters were up to 12 metres long….Rowed by 12 men, they made a magnificent sight coming out of the harbour when the sea was breaking right across the passage. Sometimes they would meet us miles out at sea at daylight and the crews would fight to get the cargo out of the ship, for they were paid by the ton and each lighter was owned by a separate village. They often had more tomatoes than we could carry and it often seemed a shame to leave them behind to rot.” *Don Silk, 1994, From Kauri Trees to Sunlit Seas, Goodwit, Auckland*

1947

Veitātei Boat Accident

The dangerous coral-reef that encircles this island very nearly added to our regrettable list of whaleboat accidents and fatalities during a recent call of the Auxiliary Schooner *Tahitienne.*

When the *Tahitienne* called, sea conditions at the Oneroa landing were at their worst, with a bad reef and a wind that caused the vessel to take six hours to cover as many miles to the anchorage (a misnomer here, as it is too deep to anchor off Oneroa village).

In spite of adverse conditions, the Veitātei boat put out but had no sooner got to the channel edge when an incoming surf swamped the whaleboat, capsized her in an extraordinary cork screw fashion and left her men struggling in deep water at the dangerous edge of the reef platform.

One man, who had been injured in a previous accident, succeeded in swimming to the reef and was picked out of the lagoon unhurt.

The rest of the crew stayed by, or on, the upturned whaler and after long and hard effort managed to right the boat and bale her out. The schooner, unable to offer aid, had to go to Atuakoro... at which anchorage conditions were a little safer for unloading.

Pacific Islands Monthly, December, 1947

1950

Policeman injured during truck landing

Although more than half-a-dozen motor-trucks have been successfully lightered - balanced precariously between two whaleboats or large canoes - over Mangaia's dangerous coral-reef, to the last *Maui Pomare*'s call none of those engaged in unloading them suffered injury. This fortunate record was, however, broken in late November, when a local constable had one of his feet crushed by a truck that was being lowered onto the lighters.

Swinging a three-ton truck over-side, as must be done here and lowering it with exact nicety on two narrow floating platforms, is a job requiring no little skill, both aboard the steamer and the lighters. Any miscalculation would mean the precious vehicle diving to disaster in Davy's damp locker.

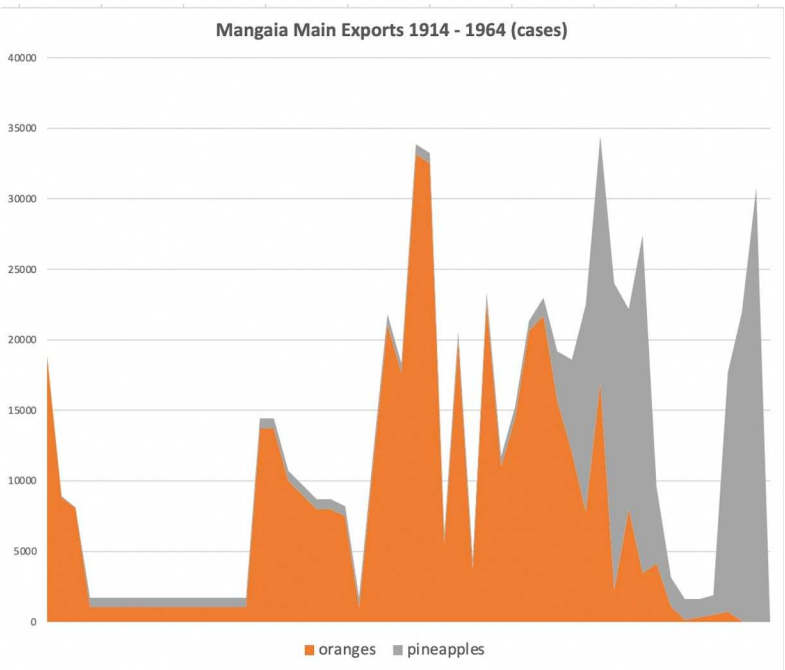
Conversely, any unhandy work by the boatmen may result in one or more of them receiving the weight of the heavy truck on limb or body.

In spite of the accident, the truck was brought to the beach, and is now in Administration service.

Pacific Islands Monthly, March, 1950

Appendices and Mangaian Boating Vocabulary

Appendix 1 - Mangaian's main exports 1914-1964



The freight exported over the reef from Mangaia was almost always destined for New Zealand and, to a lesser extent, Tahitian and Californian markets.

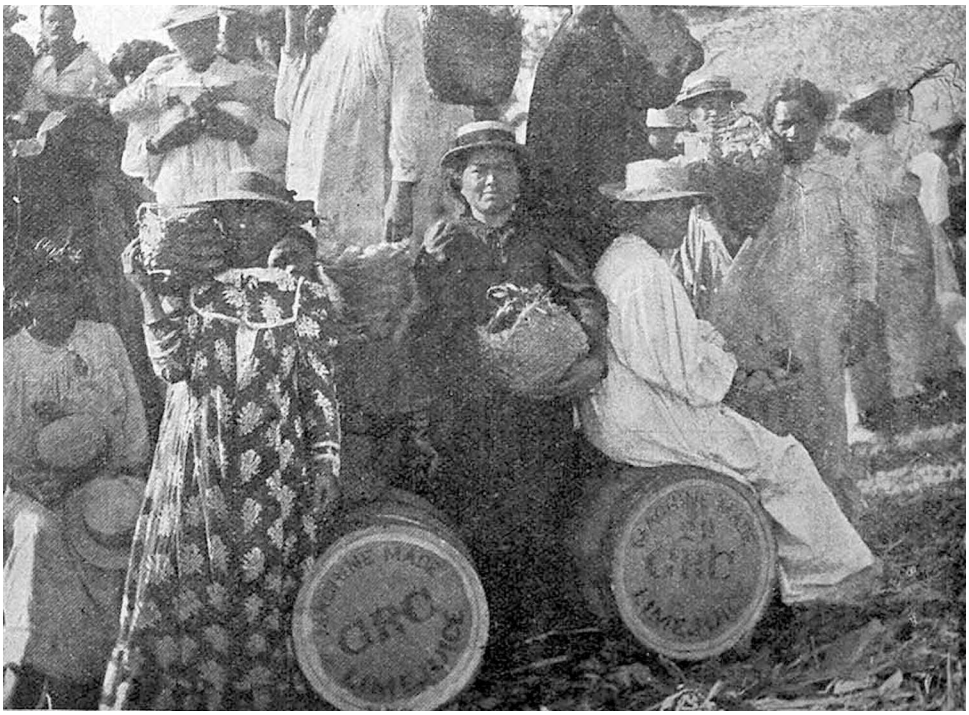
The main export crops included oranges, lime juice, pineapples, copra, coffee and tomatoes.

The chart above indicates the emphasis on orange exports in the early years of the twentieth century, giving way in the 1950s to pineapples. Export production of oranges effectively ceased after 1958 as orange trees aged and died and were not replaced. The citrus replanting scheme initiated in 1945 on some other islands was not implemented on Mangaia because of its land tenure implications. Pineapple production peaked on Mangaia in 1970 and declined thereafter.

Export volumes fluctuated according to -

- the availability and frequency of shipping,
- the cargo space available on visiting ships and the availability of packing cases,
- the prices offered by fruit importers and the financial return to growers,
- the incidence of pests and diseases,
- weather events such as cyclones which destroyed crops and high seas that made transport across the reef impossible.

Lime juice was a major Mangaian export in the nineteenth century. (Above) Pressing lime fruit by machinery, Mangaia and (below) Bringing in the lime fruits, Mangaia. The casks are marked "Machine Made GRC Limejuice" (photos Geo. Crummer, Auckland Weekly News, 9 November, 1900). Machine made juice was considered a step up from the earlier practice of treading limes out with bare feet in a canoe.



Appendix 2 - Making poi

Ivi'iti 'Aerepō

"Poi is one of the famous foods used by the forefathers, but it is also hard to make. First of all you have to gather coconuts, some dry, some nearly dry. The coconuts are then husked and the woolly fibres are scraped off the shell, otherwise the fibres will fall into the grated kernel. Five hundred to one thousand nuts are needed for the occasion, especially if the poi is for the use of the whole village. After the nuts are prepared, some big baskets are woven out of coconut fronds. The baskets are lined with banana leaves and/or the leaves of the ti plant. The grated nut ('akari) is placed in the baskets and fermented.

For fermentation, some crabs (tītīrōtai) and some fresh water crayfish (kōura vai) are collected. These are pounded together and mixed into the grated nut. The baskets are then covered with leaves, tied with kiri'au and then left until the mixture is ready for use in about one week.

Next, a big umu is prepared. Then the mamio (taro) is gathered and placed in the umu without peeling. When the mamio is cooked the women gather around the umu and peel by hand. At the same time the men are preparing the papāʻia, a flat wooden platform used for pounding the taro on. When this is prepared the men are arranged around the papāʻia. Four or five papāʻia are lined up in a row. Men squat on both sides with a woman between each man. Everybody has a job to do.

The cooked mamio and coconut mix (ota) are then brought and three to four lots of ota are placed in the middle of each papāʻia to mix with the pounded taro. When the men on both sides are pounding, they pound in special rhythms and the women dance as they supply the taro to the men. A watchful eye is kept by one woman to make sure no man runs out of taro or ota and she signals if there is a man in need. Other women wipe the sweat off the men.

The last job is carried out by a group of women. They mix the finished, pounded material (kareru) with some more ota and this action is called tāpoa. [A reru tāpoa or smaller penu is used for this stage]. The poi is now ready and can be eaten immediately or kept for a long time, the longer the sourer. A little sugar or ripe banana can be added."

(Source; Ivi'iti 'Aerepō , in C. N. Taylor, 1978, Agricultural Change in the Cook Islands, Ph.D. thesis, University of Canterbury)

Appendix 3 - Mangaian Boating Vocabulary

'A'ātu
1. (v.) The breaking of the wave on reef or the shore.

'Akaka'i
1. (v.) To shape or form the bow of the canoe.
2. (n.) The sharp prow of a canoe.

'Akapapa / tāpapa
1. (v.) Timing of the waves for the landing or launching of the canoes.

'Akapuku
1. (v.i.) To swell as the sea rising and falling under a fishing canoe.
2. (n.) Swell of waves.

'Akatau
1. (v.) To wait for the proper time to paddle the canoe over a reef / 'akapapa.

Akau
1. (n.) The outer edge of the reef

Ama / paiere
1. (n.) Outrigger of canoe - always on left side.
2. (n.) A dugout fishing canoe.

Angā pi'a
1. (n.) Empty cases; these are much in demand in the islands for shipping exports.

'Are'are
1. (v.i.) To overhang, as a high wave on the verge of breaking

Aruru
1. (n.) The thunder of heavy waves on the reef.

'Ati
1. (v.) The breaking of waves on reef or the shore - see 'a'ātu

Aumi'i
1. (n.) The bow section front half of a canoe, generally the sewn fore dugout half.

'Ie
1. (n.) Sail of a canoe or boat

Iri
1. (v.) To go onto, by force as a boat on the reef,

Kaingaru
1. (v.i.) To be expert at judging the waves, in taking canoes and boats over the reef; said especially if a man is expert in doing so on a rough reef.

Kaka'i
1. (n.) Prow post of boat.

Kapu
1. (v.) To bale the water out of a boat.

Kapu/ranu
1. (v.) To commence to flow in, of the tide.

Kare
1. (n.) Foam on the waves crossing the beach.

Kaukau
1. (n.) Sides of a boat or canoe.

Kiato
1. (n.) The outrigger boom, of a canoe.

Kōkiria
1. (v.) To appear, commence to rise above the water, of the surface of the reef, when the tide commences to ebb;

Koko
1. (v.i.) Swirl violently (of turbulent current), sweep along of tide

Kōto'e
1. (v.) Reverse a ship or boat, go astern.
2. (v.) To withdraw, to go backward.

Kukū
1. (v.) To scrape as the keel of the canoe along coral in the lagoon.

Marō / Tai Marō
1. (v.i.) to be low, as in low tide.

Nati/tāpeka
1. (v.) To tie, fasten, as to put together canoe parts with sennit.

Ngaru
1. (n.) Wave of the ocean - alternatives - are, 'aru and miti.

Ngaru 'akakī
1. (n.) Tidal wave, tsunami.
2. (n.) Ngaru 'uri'ia - hurricane wave.

Ngaru 'eretue/ngaru turua
1. (n.) A double wave, two small waves which have accumulated close together and are very suitable for shooting the reef.

Ngaru o te pī'aki
1. (n.) Outgoing wave.
2. (n.) An incoming wave which retains it's size while crossing the lagoon until the moment it crashes upon the shore.

Ngaru o te roroka
1. (n.) An incoming wave which rapidly loses size when crossing the lagoon.

Ngaru rapa rapa
1. (n.) A thin type of wave which is high and generally breaks; not suitable to shoot the reef and can cause a great deal of undertow.

Ngaru 'uri 'ia
1. (n.) A cyclonic wave.

Ngarutā/Utā
1. (n.) A wave which is receding, after having washed upon the shore.

Noruē
1. (n.) Expert, as the captain of a boat, the handler of a canoe; from the respect held for the heavy smoking Norwegians known to Mangaians from the days when chartered Norwegian vessels were used to ship guano from Malden Island

Oa
1. (n.) The top of the sides of a large canoe to which the kiato are lashed.
2. (n.) A grooved piece of wood lashed to the top of each side of a canoe, gunwale or top strake

'Oe
1. (n.) A paddle of a canoe, oar of a boat.
2. (n.) The rudder of a ship or plane.
3. (n.) The steering wheel of a ship or plane.
4. (v.) To paddle as a canoe, to row of a boat.

Okamu
1. (n.) Oakum, caulking material, formerly coconut husk fibre, but in recent times plastic putty was used.
2. (v.) To caulk, as the seams of a boat, to apply oakum.

Ōngā
1. (v.i.) To increase, as in the height of waves.

Pā/taipa
1. (n.) Ebb tide.

Pa'ata (pā'ata)
1. (n.) Rack, platform
2. (n.) Duck boards of a boat.

Paenga
1. (n.) A ridge in the lagoon, which prevents water from flowing in low tide.

Pae one
1. (n.) Sandy beach

Pakika
1. (v.) To sweep away, as tidal wave or flood.

Pange pine
1. (n.) The wooden supports for oarlocks on a boat.

Papa
1. (v.i.) To be smooth as between large waves in crossing the reef.

Paretai nō te poki
1. (n.) A beading, outer overlap of a canoe which is so cut as to help keep water out of the craft.

Paringangaru
1. (n) The breakwater, external edge of the reef

Paru
1. (n.) A fathom - 1.83 metres

Patapata
1.(n) Coral benches,, lagoon platform, low cliffs leading down to the lagoon.

Pī
1. (n.) High tide of water.

Pī/ranu
1. (v.i.) To be high, of the tide.

Pi'aki
1. (n.) The undercut makatea rock at the beach edge

Pine
1. (n.). Oarlocks or rowlocks

Poinga
1. (n.) A joint, as in one canoe section butted to another.

Pōkara
1. (v.) To collide as two waves or hands.
2. (v.) To smash on the beach, of waves.

Pōkarakara
1. (v.) To beat against the rocks, of small waves.
2. (v.) To crash, as waves against rocks or the sides of a ship.

Poki/tuāuru
1. (n.) The fore deck of a canoe.

Poroketa/porotata
1. (n.) A ship's block and tackle.

Rē / kaka'i
1. (n.) The bow of a boat

Repe
1. (n.) The high stern post of a traditional canoe.

Reti
1. (v.i.) To heave, ē reti ē! Heave ho! - as in the Mangaia boat handling chant "ē reti ē, ei reti ei".

Rīpini
1. (n.) The inside or outside ribbons of a boat, used to tie the ribs together.

Riu
1. (n.) The top side of a canoe, the log is carefully selected so that the keel is a rational curve of the tree and the riu is the most suitable section of wood opposite from this.
2. (n.) The bilge inside a boat.
3. (n.) The bilge water, in the bottom of a boat.

Roro'ara
1. (n.) Coastal terrace, the line of pandanus around the

island, the seaside limit of the pandanus forest.

Roroka
1. (n.) The reef flat, the lagoon area, from reef to shore, around the island

Ruātai
1. *(n.) Echoes of the sea, heard through holes in the makatea - allows people living inland to know the state of the sea.*

Tai ‘ati ‘ati ‘anga
1. (v.i.) A condition of the sea, with choppy waves, rather than large combers.

Tai kapu /tai pī
1.(v.i.) To flood, of the tide; high tide

Tai kārakaraka/tai rakaraka
1. (n.) An incoming wave of exceptionally large size in comparison to those preceding and following it.

Tai kapu/tai ka‘u
1. (n.) The incoming tide

Tai mākoa
1. (n.) A condition of the sea during which heavy combers smash against the reef, carrying waves across the reef and over the lagoon into the beach; these are at intervals often up to fifteen minutes and are exceedingly dangerous; high swells during low tide.

Tai marō / tai ‘eke/tai mate
1. (n.) Low tide.

Tai pā/tai‘eke
1. (n.) The outgoing, ebb tide.

Tai pākitikitiā
1. (n.) *A condition of the sea, with large swell; only an expert can cross the reef at this time.*

Tai pakō-te-mōkiko
1. (n.) *An exceptionally dry condition of the reef in which the stagnant water turns yellow and even the mōkiko (type of slug) dies.*

Tai rakaraka/tai kinokino
1. (n.) *A condition of the sea when the reef is not too suitable for either fishing or working boats.*

Tai tū‘ā/tai mate
1. (n.) *A dry condition of the reef, so much so that the fish on the reef die.*

Ta‘i ē tai
1. *Ta'i angārere e ta angāka'a (a short term for sixty fathoms).*

Tākatea/‘akatea
1. (v.i.) To be starboard-to-starboard, of two canoes broadside to each other.

Tākere
1. (n.) The floor of the ocean.
2. (n.) The keel of a boat.
3. (n.) The keel or keel location of a canoe, the centre of the bottom.

Taki
1. (n.) Keel of a boat.

Ta mutu/ta motu
1. (v.i.) To misland on the reef, having musjudged the waves (this can be very dangerous).

Tāni
1. (v.) To scull with a single paddle, or to paddle to

cause a canoe to move backwards from the reef.

Tapa'e
1. (n.) The front bow cover

Tapiri
1. (v.) To join side-by-side, as two or more ships, boats, canoes, people etc; / topiri, mopani

Tata
1. (n.) Bailer (for canoe).

Tātāki
1. (v.) To swell as the sea rising and falling under a fishing canoe.

Tau
1. (v.) To be safely at sea, or back in the lagoon, having safely negotiated the reef.
2. (v.) To scull, using a single paddle in one hand, to keep a canoe moving slowly forward.

Tau'iro
1. (n.) The sennit lashing of the boom (kiato) onto the outrigger of a canoe.

Ta'uri
1. (v.i.) To turn over, capsize, as a canoe upon the reef.

Tīā
1. (n.) A wedge like instrument used in caulking boat seams.

Tikopū
1. (v.i.) To come in a 'v' shape, of waves.

Tino
1. (n.) The hull of a ship, house etc.

Tomo
1. (v.i.) To be swamped by a wave crest crashing down upon and filling a canoe.
2. (v.i.) To sink from weight as a vessel slowly lowers when laden with cargo.

Tuai ama
1. (n.) The left outrigger side, the port side of a canoe.

Tuai katea
1. (n.) The off-side of a canoe, from which one fishes.

Tuākiri
1. (n.) The thick side of a canoe, the portion that must be adzed down to balance the canoe.

Tuāngaru
1. (n.) The waves.

Tuātea/tuāngaru
1. (n.) A wave in the ocean beyond the reef.

Tuāuru/poki
1. (n.) The fore deck of a canoe.

Tūpā
1. (v.) To trim down the inside of the front of a canoe.
2. (v.) To adze out the inside of a canoe, with the final finishing strokes.

Tūtau
1. (n.) The anchor of a canoe generally a stone.
2. (n.) A weight suspended from a fishing pole to straighten it.

Tūtongi
1. (v.) To gouge out the inside of a canoe, a process which results in the roughly completed inside of the canoe following the first rough axe work.

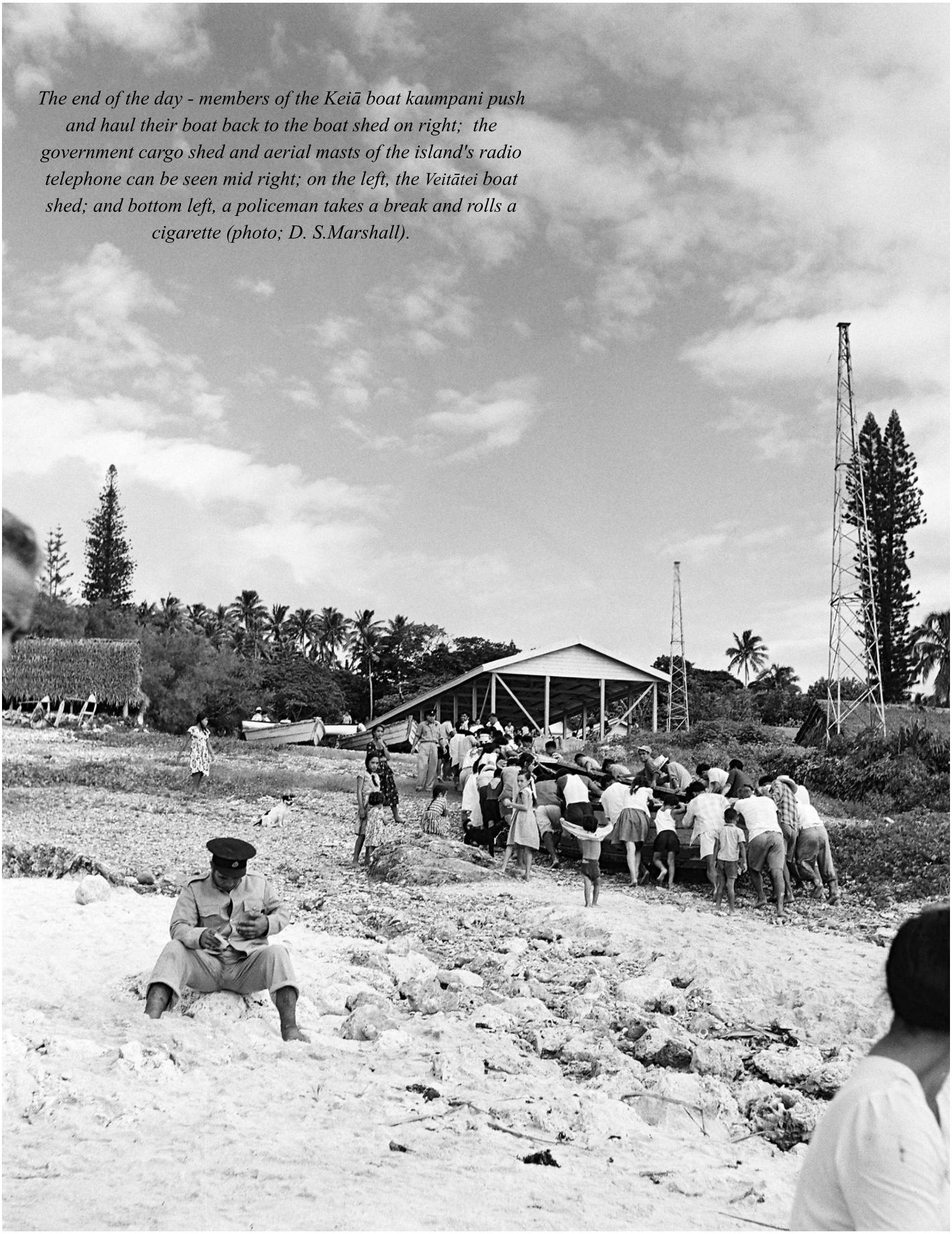
Ua pa'ī
1. (n.) A gentle rain which falls while the sun is shining, believed to be a sign that a ship is coming.

Uru
1. (v.) To shoot a reef, by taking a canoe over the surf at the proper moment.

'Uru
1. (n.) The bottom or the portion of the bottom of the canoe; it is important in canoe making that this be as wide as possible in order to increase the carrying capacity of the canoe.

Uitā / utā
1. (n.) The juncture smash of an incoming wave meeting an outgoing wave.

Vae
1. (n.) The ribs of a boat.



The end of the day - members of the Keiā boat kaumpani push and haul their boat back to the boat shed on right; the government cargo shed and aerial masts of the island's radio telephone can be seen mid right; on the left, the Veitātei boat shed; and bottom left, a policeman takes a break and rolls a cigarette (photo; D. S.Marshall).

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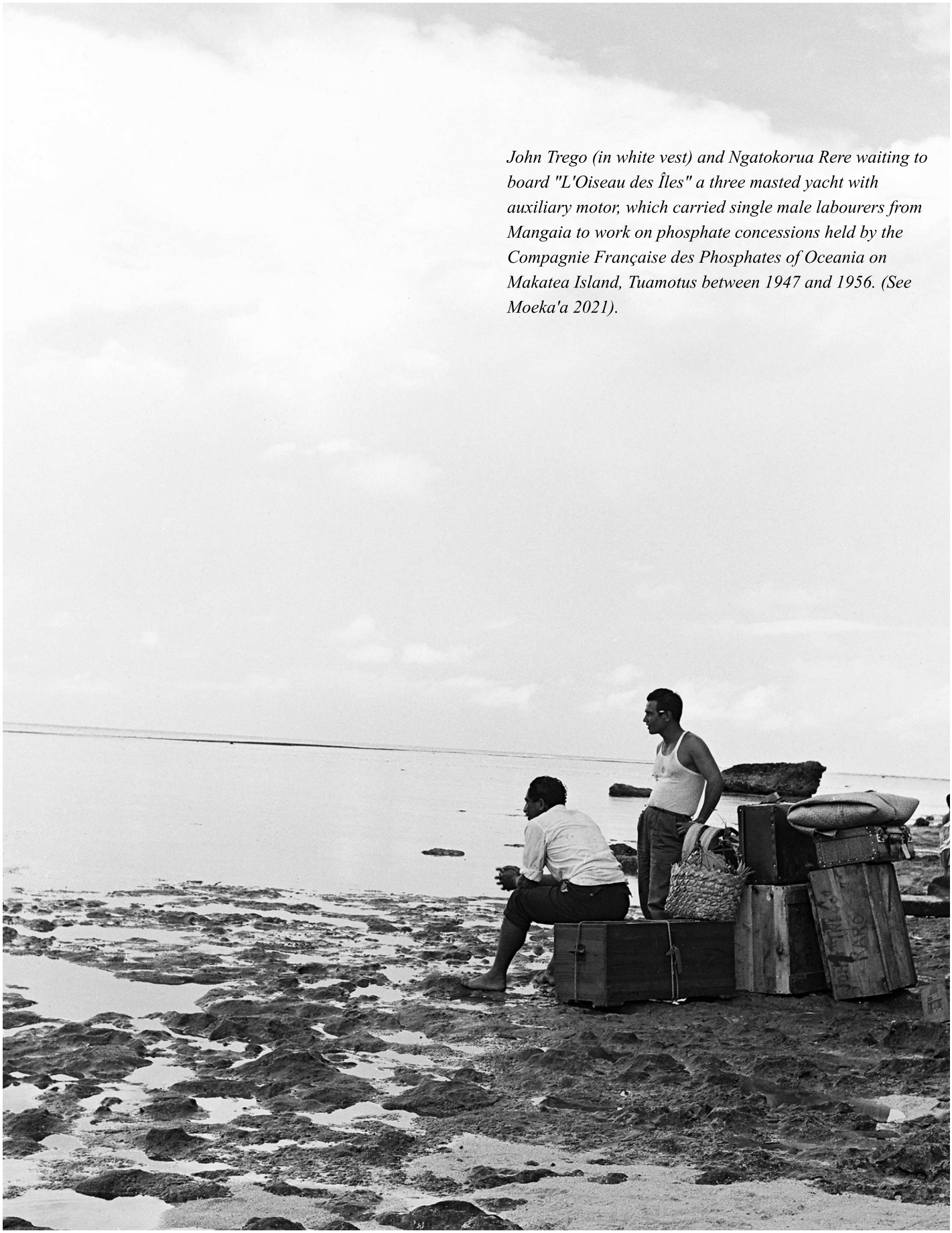
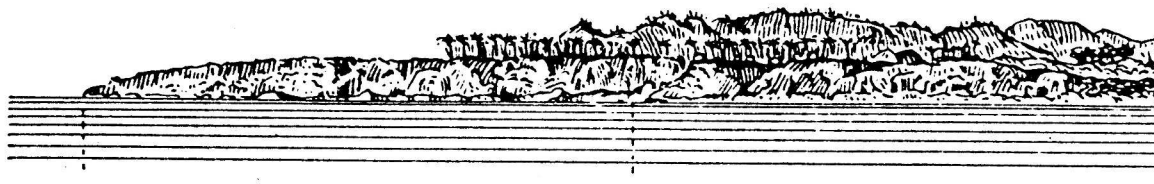


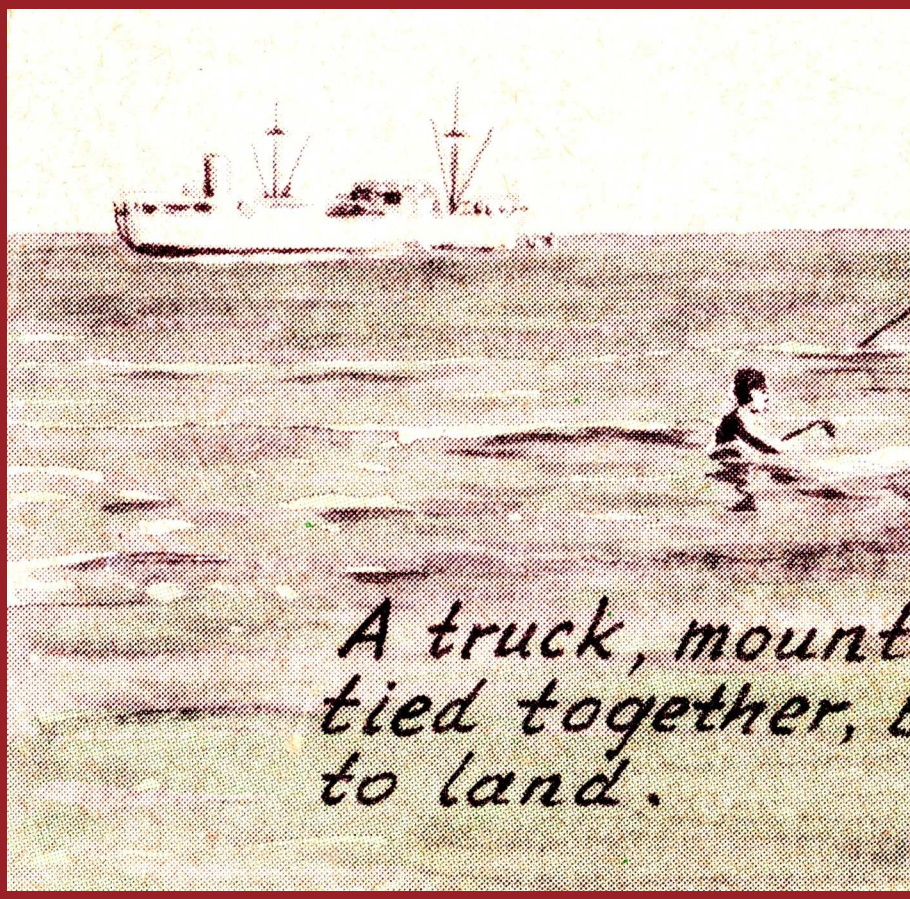
John Trego (in white vest) and Ngatokorua Rere waiting to board "L'Oiseau des Îles" a three masted yacht with auxiliary motor, which carried single male labourers from Mangaia to work on phosphate concessions held by the Compagnie Française des Phosphates of Oceania on Makatea Island, Tuamotus between 1947 and 1956. (See Moeka'a 2021).

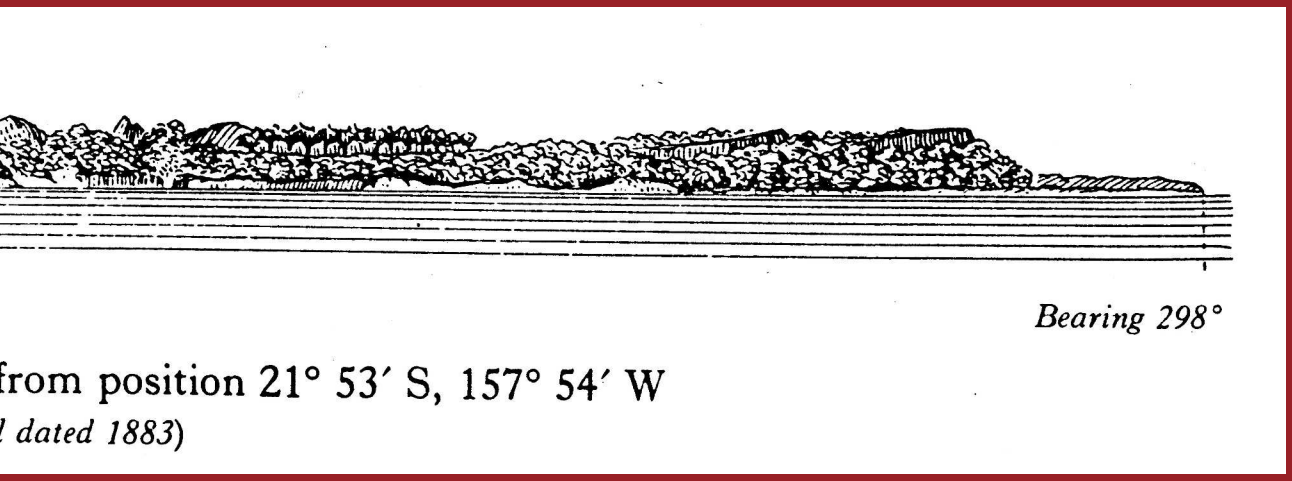


Bearing 151° *Landing, 1 mile*

(4.75) Mangaia from NE—seen f

(*Original*





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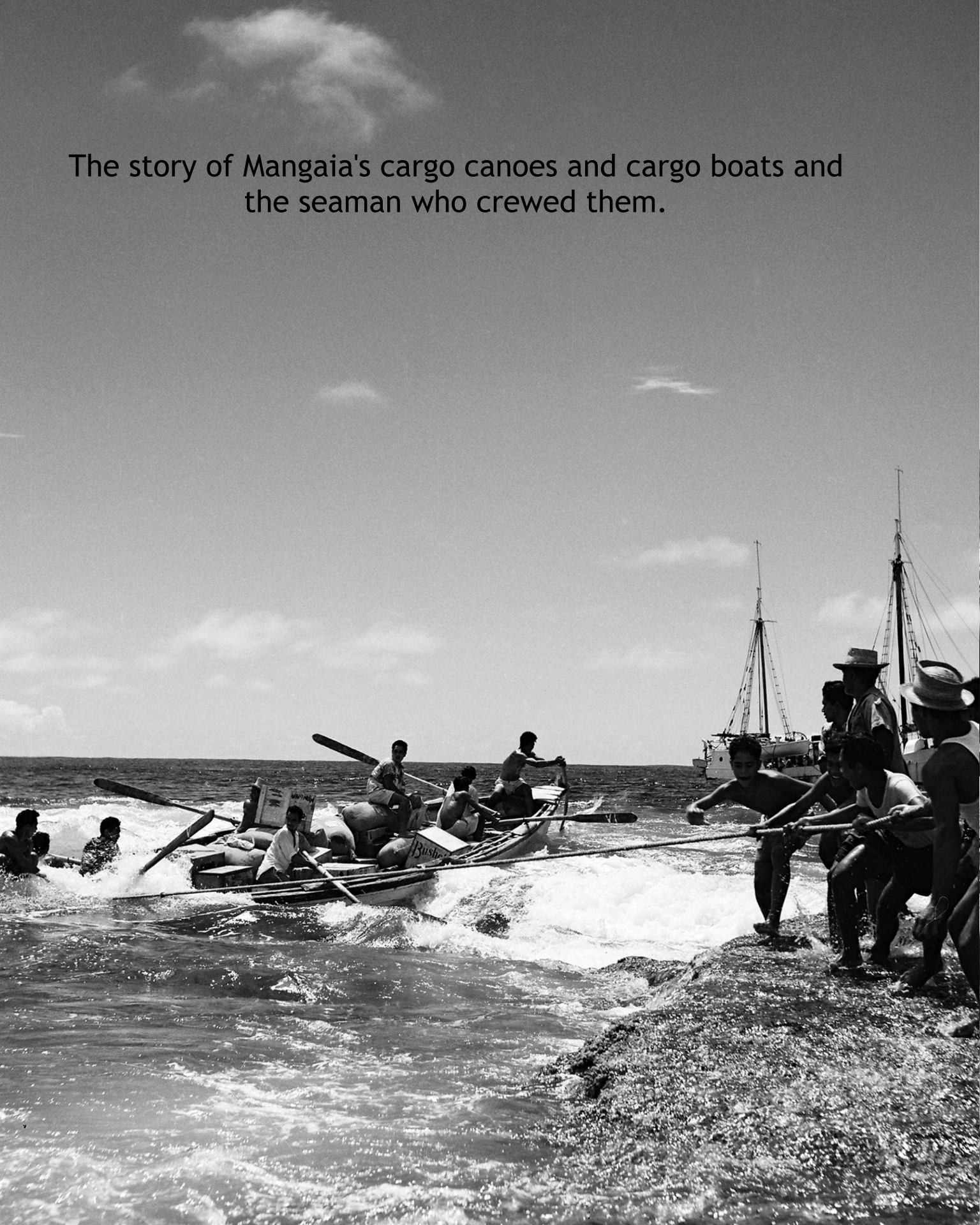
The story of Mangaia's cargo canoes and cargo boats and the seaman who crewed them.